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**NUCLEAR REGULATORY COMMISSION BUDGET
REQUEST FOR FISCAL YEARS 1986 AND 1987**

424 ORIGINAL
OVERSIGHT HEARINGS

BEFORE THE
SUBCOMMITTEE ON
ENERGY AND THE ENVIRONMENT
OF THE

COMPLETED
527

COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST AND SECOND SESSIONS

ON

NUCLEAR REGULATORY COMMISSION BUDGET REQUEST FOR FISCAL
YEARS 1986 AND 1987

HEARINGS HELD IN WASHINGTON, DC
FEBRUARY 28, 1986, AND FEBRUARY 6, 1986

Serial No. 99-17

Printed for the use of the
Committee on Interior and Insular Affairs



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U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1986

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NUCLEAR REGULATORY COMMISSION BUDGET REQUEST FOR FISCAL YEARS 1986 AND 1987

THURSDAY, FEBRUARY 28, 1985

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, DC.

The subcommittee met at 10 a.m. in room 2237 of the Rayburn House Office Building; Hon. Morris K. Udall (chairman of the subcommittee) presiding.

The CHAIRMAN. The Subcommittee on Energy and the Environment will be in session.

Our purpose today is to address matters pertinent to the NRC's authorization request for fiscal years 1986 and 1987. Since our committee assumed legislative jurisdiction over nuclear regulation a decade ago we have used this authorization hearing as a good opportunity to provide for an exchange of views on matters of concern. I hope we can continue that tradition today, and I will throw a few logs on the fire to start the proceedings.

In 1975, 10 years ago, forecasts indicated that 1,000 reactors would be operating by the end of the century. The conventional wisdom was that plutonium would be extracted from spent nuclear fuel and then recycled. Plutonium recycling, it was widely believed, would lead logically to the widespread use of plutonium breeder reactors. All of this would have led to the issuance of construction permits and operating licenses at a rate of about 40 per year as well as the eventual construction of 20 facilities on the scale of the reprocessing plant at Barnwell, SC, which is yet to be finished.

The forecasters, as is often the case, were wide of the mark. Instead of 1,000 reactors in the year 2000, it is now pretty clear that we will have no more than 120. There is no current prospect for reprocessing, and breeder reactors are on the back burner.

Construction has been completed on 90 reactors and about 30 more will be completed in the next few years. While the numbers are much smaller than those before us in 1975, the number and complexity of problems associated with these plants are such that I wonder how we would have coped if the 1975 projections had been on target.

It is disturbing to me that the Commission seems not to have developed yet the public confidence I have long believed essential if the nuclear technology is going to be viable. The problem may be rooted in a carryover from the old Atomic Energy Commission belief that the Nation's future depended upon expedited develop-

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ment of nuclear electricity. This belief, it seems to me, has served to justify sometimes a cavalier treatment of the concerns of citizens whose health and property the Commission is charged with protecting.

Some examples. Mr. Panetta, our colleague from California, has recently written to me of his concerns about the manner in which the Commission dealt with emergency planning at Diablo Canyon. Governor Cuomo of New York, the Suffolk County officials and our colleagues from Long Island have repeatedly stressed their belief that the Commission's policies toward Shoreham did not adequately take into account the concerns of the citizens of Long Island. In Pennsylvania both Senators Spector and Heinz, Governor Thornburgh, and the local Congressmen and local officials of central Pennsylvania have stated clearly their disagreement with the way in which the Commission has responded to the issues arising from TMI.

I am of course fully aware that the law requires the Commission to authorize nuclear plant operations following findings of compliance with regulations. Nuclear electricity is legitimate and legal in this country under existing law. The elected officials do not quarrel with this requirement of the law. They are concerned, however, because they perceive that the regulations are not being scrupulously enforced. They believe that some decisions are driven by the need to protect investments rather than to protect the public safety. They see corners being cut and they do not like it.

It is not only elected officials who question whether the regulatory process is being properly managed. We have now the unlikely circumstance of a Federal grand jury inquiring into whether NRC staff have committed criminal acts by failing to fulfill their responsibilities.

It is said that the problems of nuclear regulation border on being intractable because the history of nuclear power in this country is a history of commitments to build plants without a real understanding of the difficulties that would need to be surmounted. As understanding developed there seems to have been an unwillingness to get on with the proper track. Instead, too often regulations were honored in principle but not in practice. Unfortunately the regulators were too willing to go along. They did not always act forcefully when projects were at a stage where the costs of bringing them into full compliance were relatively tolerable. As a result the Commission is now faced with completed reactors where it is difficult or impossible to determine the extent to which they satisfy the requirements.

In the case of Diablo, Shoreham, and Three Mile Island there is a clear public sentiment that the Commission has simply ignored its own rules. I bring up these examples not because I advocate a particular course of action, but because in each instance elected officials representing the people who both support and oppose the projects in question have demonstrated a lack of confidence in the regulatory process.

In light of so much controversy as to whether the present regulatory system pays sufficient heed to citizen concerns I am somewhat surprised that the Commission continues to press for licensing

reform that would, if anything, further erode the credibility of the regulatory process.

I am also surprised at some of Chairman Palladino's comments to Chairman Bevill along the line that things might work better if the Commission were changed to an agency headed by a single administrator. We have been down that road before and to date it has been rejected. If we could be assured of a philosopher king to rule over the complexities of the enterprise, then the single administrator concept might actually work out. But I think we have at this time no such assurance. Indeed we need only look at the recent experience at the EPA under Mrs. Burford to realize what can happen if one person is running the show. The Commission may be inefficient, but that is not because of problems inherent in the organization; it results, rather, from the thorny nature of the questions in dispute. For these reasons I would strongly prefer to continue to rely on the combined wisdom of the collegial body, even though it is not always the most efficient way of decisionmaking.

Some of these comments today have been critical, but I do not want to imply that much of the Commission's work is not often fair, competent and thorough. I am confident that the bulk of the NRC staff are dedicated and competent civil servants. My remarks are focused on the part of the glass that is empty. This is the part in which the danger resides. It is our responsibility to remind the Commission of our views on these things, and I hope my remarks will be taken in that spirit.

Are there any other opening statements?

[No response.]

The CHAIRMAN. We have before us today the full Commission from NRC. Gentlemen, we are delighted to meet with you once again.

Chairman Palladino, how do you wish to proceed? Do you have a statement?

[Prepared statement of Hon. Nunzio J. Palladino may be found in appendix I.]

**PANEL FROM THE U.S. NUCLEAR REGULATORY COMMISSION
CONSISTING OF HON. NUNZIO PALLADINO, CHAIRMAN, NUCLEAR
REGULATORY COMMISSION; AND COMMISSIONERS THOMAS
M. ROBERTS, JAMES K. ASSELSTINE, FREDERICK M.
BERNTHAL, AND LANDO W. ZECH**

Mr. PALLADINO. Yes, Mr. Chairman.

Mr. Chairman and members of the subcommittee, the Commission appears before you today to discuss the fiscal year 1986 budget request. With me today are my fellow Commissioners, the Executive Director for Operations and the Directors of the principal offices of the Commission.

With your permission, I would like to make a brief oral presentation and submit my prepared statement for the record.

The CHAIRMAN. That will be made a part of the record at this point.

Mr. PALLADINO. Thank you.

I will begin by saying that this is the first time that the budget request for NRC resources for the next fiscal year is for less than

the amount appropriated for the current fiscal year. As you know, we asked OMB to increase our fiscal year 1986 budget. The additional resources were for programs that the Commission believes are important to our regulatory mission. While we recognize there are strong fiscal pressures created by the Federal deficit, we must make it clear that within the OMB approved amount for fiscal year 1986 the NRC will be able to carry out only its most essential programs.

The total budget request is for \$429 million. This is approximately \$20 million below our fiscal year 1985 program. This reduced amount anticipates that the administration's proposed 5-percent pay cut will be enacted by Congress. If it is not, we will be short another \$8.6 million.

A chart showing a decline in terms of constant dollars in our research budget over the last 10 years and a table summarizing resources for major budget categories are appended to my statement for the subcommittee's convenient reference.

[EDITOR'S NOTE.—The above-mentioned chart and table may be found in appendix I following Mr. Palladino's prepared statement. See table of contents for page number.]

Mr. PALLADINO. At this time I would simply like to highlight two important concerns of the Commission with respect to the budget that are worthy of special emphasis.

The first is our concern that the NRC budget cuts are being considered under the assumption that in the absence of new plant orders the resources used to license plants now in the pipeline will no longer be needed. This is just not the case. NRC resources are required for a nuclear plant from the time a license application is submitted until after it is decommissioned.

For example, licensing actions are frequently needed for operating plants to correct inadequacies identified from operating experience and the resolution of safety issues. Unanticipated events must be reviewed for safety significance; operators must be examined; and inspections conducted. These are some of the many regulatory activities that must be performed on a continuing basis after a plant receives an operating license.

As new plants are licensed, the resources used for licensing are being shifted in our budget to activities necessary for assuring safe plant operation. If our budget were to be reduced further, to the point where we would have no other choice but to cut back some of our operational activities that have been strengthened in recent years, safety could be adversely impacted.

I would emphasize to the committee that the NRC has important regulatory functions in other areas as well, such as safeguards, exports, transportation, materials licensing (there are approximately 9,000 active materials licenses), uranium recovery, and a wide spectrum of radioactive waste management activities. These mandatory activities must continue and require NRC resources apart from NRC's licensing responsibilities for operating plants.

Our second major concern is the extent to which we have had to cut back our research program over the years. In fiscal year 1986, research funding will be down more than \$85 million from fiscal year 1981, about a 40-percent reduction. In terms of constant dol-

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lars our research budget will be somewhat lower in fiscal year 1986 than it was when the agency was formed 10 years ago.

We have had to reduce research funds because the magnitude of the budget cuts we have taken, coupled with the requirement to absorb pay raises and other increased costs, has left us essentially no other choice. To stay current with our day-to-day regulatory responsibilities research has had to absorb the major portion of our cutbacks.

A stable continuing program of research is essential for the Commission to carry out its responsibilities. Our research program provides us with the kind of sound technical information we need to deal effectively with emerging complex technical issues. When information developed by our research program is lacking we often have to be overly conservative to compensate for our lack of knowledge, placing an unnecessary burden on the industry and the public.

Absent needed safety information developed by our own research program we could be forced into a very undesirable regulatory posture, one that could require the NRC to either shut down some operating facilities or delay licensing others until after the necessary technical data have been obtained to resolve the identified safety issues. Either alternative would be more costly to the public than the adequate funding of our research program.

For example, the availability of NRC research in materials and thermal hydraulics coupled with risk analysis methods for pressurized thermal shock contributed to a decision that avoided the unnecessary shutdown of several reactors. In another instance involving cracks in boiling water reactor pipes available NRC research results made it possible for us to make prompt technical decisions that precluded long plant shutdowns.

Tight fiscal constraints make it imperative that decisive action be taken to improve NRC's efficiency and effectiveness. In this regard I now want to address the continuing problem of NRC building consolidation and then to express some personal views on the subject of the NRC Chairman's authority.

As you know, for 10 years we have been hindered by the expensive and time-consuming process of traveling back and forth between our various locations. We continue to work with GSA to find a way that would permit us to consolidate. However, consolidation has not yet materialized. Thus we strongly recommend that the subcommittee mandate consolidation not later than the end of fiscal year 1986 in a single location in the District of Columbia or Bethesda, MD. The mandate should include whatever funding provisions are necessary to achieve full consolidation by that time.

Before closing, I would like to comment briefly on the subject of the NRC Chairman's authority. My remarks are personal in nature and do not necessarily represent the views of other Commissioners.

On January 23, 1985, I reported to the House Appropriations Subcommittee on Energy and Water Development on what I think should be done to improve the current Commission structure. That report also addressed limitations on the conduct of Commission business as a result of the Sunshine Act and ex parte considerations. With your permission I would like to have my report made a part of the record.

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[EDITOR'S NOTE.—The above-mentioned report, with attachments, may be found in appendix I, under cover of a letter from Chairman Palladino to Chairman Beville, dated January 23, 1985. See table of contents for page number.]

Mr. PALLADINO. I especially urge you to carefully consider the merits of the proposed single administrator concept. I further urge you to support legislation along this line. In my opinion, it would be one of the most important actions the Congress could take to make the agency function more effectively and efficiently.

In closing, let me emphasize that the budget request submitted to Congress represents a minimum program in the view of the Commission. We urge your strong support for the full amount of our request.

With respect to fiscal year 1987, we are requesting an increase of about \$30 million, for a total of \$460 million. As our detailed budget request indicates, this amount is not supported by OMB. We will need to resolve this matter in the near future.

Mr. Chairman, this completes my prepared oral presentation. I do think, though, it would be appropriate to comment on a few of the statements that you made in your opening remarks.

I believe that the charges that the Commission is basically a lax regulator are just not well founded. I believe the record will show that we have taken more enforcement actions and enforcement actions of higher amounts. As a matter of fact, I think in 1979 the fines totaled some three-quarters of a million dollars; in 1984 they were over \$2.3 million. Some of that was allowed by new legislation passed by the Congress, but I also remind you that the recommendation to do that came from the NRC itself.

You also made the accusation that we have not been following our regulations. Indeed I believe we have been following our regulations, and if you are interested, I will be glad to deal with any of the specifics that you think prove otherwise.

I must say that it would be very helpful with regard to credibility with the public if our oversight committees would refrain from saying that we are not doing a fair and firm job in our enforcement actions and that we are violating our own regulations. I think these are misconceptions that I would like to help dispel, and once dispelled, I would hope we would get support for them.

Thank you, Mr. Chairman. We will be pleased to try to respond to specific questions.

The CHAIRMAN. Before we go to the other Commissioners for opening statements let me respond briefly to what you just said. This is the kind of dialogue that is useful from these hearings.

The point I was really making was that not necessarily the Commission has been lax, but that the elected representatives in Pennsylvania, the Governor and the elected representatives in New York, the Members of Congress in California, and the public they represent, the citizens in those areas, believe that the Commission has not been enforcing the law and has not been concerned about health and safety primarily. That is the point I am trying to make.

For better or worse, democracy operates on public confidence. It is important that you do your job, but it is important that people understand and believe that you are doing your job, and that was

the point that I was making. Other members may want to get in on this during the question period.

Do the other Commissioners wish to supplement or have opening statements?

Mr. ROBERTS. I will make a very brief comment. I certainly disagree with some of the things in your statement, but I can only tell you that reasonable people of good will can agree to disagree. I certainly do not think in any way we are not following our regulations, nor do I think we are either ignoring or slighting our obligation to protect the public health and safety. We disagree on the implementation, but I submit to you that I think we act with integrity and with due respect to the consequences of our actions.

I certainly do disagree with some of the individual points, but it would be fruitless to debate them.

The CHAIRMAN. All right, sir.

Mr. LUJAN. Mr. Chairman, just along that point, if I may. Really the Commission is between a rock and a hard place. You are going to get criticism, and that criticism is usually the most vocal. You are going to get nit-picked no matter what you do. There are some that think, well, now the Commission is really moving ahead, they are doing their job, they have licensed six or seven new ones, the most in a long, long time. That same record would be attacked by many as now you've really gone overboard and lost your mind and have licensed so many new powerplants.

I know that we are all subject to criticism, and it is a lot easier to criticize. I have been a critic of the NRC on many occasions when I felt it deserved it, maybe rightly or wrongly, but in following you in the last year or so, I see a tremendous push forward, and I want to commend the Commission for it.

The CHAIRMAN. Commissioner Asselstine has a statement to make.

Mr. ASSELSTINE. Mr. Chairman, I have a few informal comments on three points. Let me start with the budget.

First, I continue to support the Commission's position on the budget as stated in the Commission's December 20, 1984, letter to Mr. Stockman. If I could, I would just like to read one paragraph from that letter that I think captures the essence of the Commission's position on the budget at that time. We said:

The Commission continues to believe that its fiscal year 1986 budget proposal—the one we sent to OMB, which was substantially reduced—represents a reasonable and prudent program for nuclear regulation in this country. That proposal would provide for the effective discharge of the Commission's essential health and safety responsibilities and for a number of initiatives to enable the Commission to improve its operations in the future. These initiatives would permit the Commission to develop better regulatory approaches for existing licensees and to prepare for future developments in the industry, such as nuclear powerplant standardization. However, the Commission recognizes that the present budget situation may not permit all of these initiatives. In recognition of this fact the Commission is prepared to support a budget proposal of \$460 million and 3,500 FTE. The Commission believes that these resources are necessary to carry out its health and safety responsibilities and its most urgently needed initiatives. Accordingly, the Commission believes that the budget request to the Congress must include at least these amounts.

I am disappointed that the Commission in its statement today didn't reiterate that position and instead seems to have backed off and accepted the lower mark that the Office of Management and Budget gave us. I still believe that that amount, which in essence is

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a freeze at the 1985 level, is really the right amount to carry out really a bare bones regulatory program for this country.

I also have a problem with the way the Commission has allocated the reduced funding from OMB and the priorities it has set. I think the Commission has, unfortunately, misplaced its priorities.

First, the Commission has decided to fund such activities as the source term work, safety goals and implementing the severe accident policy statement, and I think they are aimed much more fundamentally at reducing conservatism in our present safety approach rather than addressing the kinds of safety problems that I see out at the plants today.

Also, I think it is unfortunate to note that at least two Commissioners supported spending more money of these reduced funds for things like some additional pressurized thermal shock research work that would really only have a direct economic benefit to the industry by again reducing further the conservatisms that already exist in our regulations.

I think that if we are going to live with \$429 million we ought to reallocate that money and aim more at some of the real safety problems that exist in the plants.

And let me mention just a few of the items where funding has been eliminated or substantially reduced as a result of this lower number from the Office of Management and Budget.

By the way, I have a more complete list that the staff had prepared that I would like to submit for the record, if that is acceptable.

The CHAIRMAN. We will be delighted to have it.

[EDITOR'S NOTE.—The above-mentioned information relating to funding may be found in appendix I. See Attachment E.]

Mr. ASSELSTINE. I would just like to highlight a few of these.

One program that will be eliminated in fiscal year 1986 is the Integrated Safety Assessment Program. That is the first program that we have had to try and take an integrated look at the safety of individual plants. I think that is a big step forward; the industry supports that effort; the staff felt that that was a useful thing to do. That is one of the things that is going to be eliminated in fiscal year 1986 as a result of the budget reductions.

We are no longer going to be able to fund work on the medium priority generic safety issues—medium priority issues that came out of the TMI accident—and the medium priority human factors issues. Funding for those will be eliminated in fiscal year 1986.

We will have reduced efforts on processing license amendments for the operating reactors. That is an area where we have had a substantial backlog for a number of years. We have been trying to reduce that. We had a program to try to get that number substantially reduced. That program is having to be scaled back substantially.

A couple that I feel particularly strongly about:

We are going to defer work on the quality assurance initiatives that came out of our review and report to the Congress on the quality assurance problems we have experienced over the past several years. I think that is very unfortunate.

We are also reducing the efforts on regional based inspections on such areas as maintenance, surveillance testing, quality assurance,

and fire protection, and we are reducing our inspection efforts on problem plants and following up on allegations.

We received a report last year from our Office for the Analysis and Evaluation of Operational Data that said there are substantial problems out there in some of these areas, particularly in the areas of maintenance, surveillance testing, and quality assurance. I think it is unfortunate that we are not putting additional effort on those areas as well as on particular problem plants. That is an item that is going to be scaled back under the President's budget proposal that you have before you.

Safety research is another one that I would like to mention just briefly. When we discussed the impact of these budget cuts among ourselves the director of our Research Program basically told us we're already a second-rate power in this country in terms of safety research work, and if we have to take more cuts in some of these areas, we are going to end up a third-rate power. I think that is unfortunate.

Most of the impact, as the chairman noted, of the budget reductions in the past few years has been in our Safety Research Program. Unfortunately, that is a program that aims not only at the immediate problems that face us today, but also at some of the ones that are likely to face us in the coming years. If we have to make a choice between dealing with what is going on at the plants right now and the research programs that are aimed at in a few years out, we tend to take the money from the research programs. I think that is an unfortunate trend. We have been on that trend for the past couple of years, and it is made more severe by the budget proposal that you have before you.

The final area that I want to mention is nuclear waste. That is a third one that I think is particularly impacted by the budget proposal that you have now.

It is clear with the funding reductions in the budget submission you have now that we will be on the critical path on the Repository Program. We are likely to delay both DOE's initiation of shaft construction and the site characterization work of the DOE program by 2 to 6 months. We are virtually eliminating all of our review effort for DOE's Crystalline Rock Program and for the early review of site screening documents from DOE on the crystalline rock sites.

We will be delaying some of our rulemaking efforts in the high level waste area, and we will be delaying some of the efforts we had hoped to take to resolve some of our differences with the Environmental Protection Agency in the high level waste area, in the low-level waste area, and on mill tailings issues. I think those impacts are particularly unfortunate.

I think there is a recognition of the seriousness of the impacts on the waste program among the Commissioners. One of the things that we are looking at is requesting legislation that would clarify whether that portion of our program could be funded from the nuclear waste fund. The majority of the Commission supports that. We have held off because Commissioner Roberts has some questions that he wants to have answered before we submit something to you. But that is an area where I think the impacts, at least with the budget right now, are fairly severe.

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So for myself, I still think that the level that we had indicated to OMB, which is in essence a freeze at the 1985 level, is the right amount. I think it would avoid some of the adverse consequences that I have described for you. I think that is the level that the Commission ought still to be seeking.

I want to offer just a couple of comments on the chairman's report on the organization and structure of the agency.

I guess I appreciate the frustrations that the chairman must face as chairman of a multimember agency. I had the chance to chat a few weeks ago with the chairman of the TVA Board, and he expressed some of the same kinds of frustrations and concerns to me that the chairman has expressed in his report.

I think that the items that are included in the chairman's January 23 report to Mr. Bevill really are more in the nature of irritants. I guess I have to say that for myself I think some of those are a bit overstated. I don't see a basis in the chairman's report for major changes to the agency structure. I still believe that the Congress was right in its judgment in 1954 and again after the Three Mile accident that the kinds of issues that are facing the Commission are of sufficient significance and complexity that they should be considered by a collegial group with a range of views, background and experience. So I still favor the present Commission structure.

The last item I want to mention is an item that was discussed last year; I want to return to it just for 1 minute, because I have changed my view on the issue.

Last year we were asked whether the Commission supported an independent inspector general for the agency. I think all of us said at the time that, no, we didn't feel that that was something that was necessary; we were satisfied with our present arrangement. I said that then, and I guess I have changed my mind since then. Really for two reasons.

First, Mr. Chairman, you mentioned the grand jury proceeding. I think that the grand jury proceeding is an unprecedented event. I am not aware of similar kinds of exercises for other agencies, and I do think it reflects basically a breakdown of our internal policing mechanism.

Second, while I am a lot happier with our Office of Inspector and Auditor now than I was 1 year ago, and I am satisfied that we have a very capable individual heading that office now, I guess I am still of the view at the present time that there is some intimidation and reluctance on their part to really thoroughly evaluate and investigate wrongdoing and misconduct by the staff.

I think that we ultimately would benefit, both by virtue of the things that have brought about the grand jury proceeding, and simply by virtue of a better operation in having an independent inspector general with a strong statutory basis for the operation of that office. I think that kind of independence would help us and would avoid the kinds of situations that have led to our present problems or difficulties with the Department of Justice.

Those are the only items that I really wanted to add some additional comments on, Mr. Udall, other than I guess I would agree with your views on public credibility and public confidence question that the agency faces today. I think it is terribly important,

and I think that the Commission needs to focus not only on the decisions it makes, but also on how it makes its decisions, because I think ultimately the question of public confidence is going to be judged on the conduct of the agency. This I have said frequently over the past year or so. There are a number of instances in which I have had concerns about both the decisions the Commission has reached and the manner in which those decisions have been made.

Thank you.

The CHAIRMAN. All right. We will go to questions for members of the panel.

I think it is always easy for members of Congress to take a cheap shot at an agency over whose budget and authorization they have jurisdiction. I certainly tried to avoid that in this committee. I recognize that the Commissioners are honest and sincere people who don't always agree among themselves, and certainly I don't always agree with them. But I want to underline again the importance that I have attached all of these years to developing a procedure and developing a history in the record that gives the public confidence in what you do.

We all know agencies that are held in high regard; when they reach a conclusion it is accepted; and we have all seen agencies where you don't have that kind of public confidence. My hope and dream has been that gradually over the years the NRC would build that kind of standing, not just with people who think we have a great nuclear future and that we should be building more reactors and so on, but confidence among people who are sorry that we ever got into this nuclear business, who believe, as the editor of *Forbes* magazine in its recent cover story believed, that we plunged out of confidence into an enterprise that hasn't turned out all that well.

Mr. PALLADINO. Mr. Chairman, there was one statement that Mr. Asselstine made that I think is incorrect, and I just want to correct it. In our long testimony we point out that more licensing actions are planned for operating plants in fiscal year 1986 than in fiscal year 1985, and the numbers are roughly 2,700 for 1985 and 3,500 for 1986.

I could make other comments, but I thought that was important to call to your attention.

The CHAIRMAN. Let me say, incidentally, that I don't think it is unhealthy to have disagreements on certain things among the Commission. I think that is the idea of a Commission.

Mr. ROBERTS. We certainly have them.

The CHAIRMAN. You have not disappointed me in that regard.

Mr. PALLADINO. I do think it is wrong to say that what we are doing with our budget is looking at the promotional types of things. When you talk about source term you are talking about the most basic premise for regulation at all. If the source term were zero we wouldn't be here.

So addressing the source term and trying to understand what the source term really is I think is a very fundamental agency endeavor, one that should go on continually.

With regard to safety goals, I think it was our authorization bill that said we were directed to develop safety goals.

So not all these things are that promotional. Even the ISAP. I would say I would very much like to see that go forward. The ques-

tion is, What do you take out and what do you put in? The Commission majority makes one finding; an individual may have a different opinion; but that doesn't say that this is all based on promotion. As a matter of fact, the ISAP will help the utility just as much as it helps the regulatory body.

The CHAIRMAN. I understand the Chairman's point.

Mr. PALLADINO. Thank you, Mr. Chairman.

The CHAIRMAN. Chairman Palladino, the actual budget for fiscal year 1984 was \$475 million. The estimate for fiscal year 1985 was \$449 million, down \$26 million. The fiscal year 1986 request is \$429 million, down again another \$20 million. If you look at the fiscal year 1987 estimate in the document submitted, it is back up to \$460 million.

I guess I am asking this. You pointed out that for the first time you have gone down. The history of the NRC has been that each year the appropriation level and request was up. Is the fact that you have gone down a function of OMB and the tough times we are in and the squeeze that is being put on all the regulatory agencies? Or does it have something to do with the fact that instead of working on 40 or 50 new nuclear plants each year we are wrapping up the 30 that are under construction?

Mr. PALLADINO. I would say that the OMB mark has been significant on our budget, as has been the mark of the appropriations committee. We were cut significantly in our budget request for 1986 by OMB.

The CHAIRMAN. You could use more money on research?

Mr. PALLADINO. We could use more money on research as well as many other activities in the program.

We also were cut last year by the Appropriations Committee a total of \$20 million.

So these numbers reflect what was done to us; they do not represent what we at the time of submittal felt we needed.

Mr. ASSELSTINE. Mr. Chairman, I think it is useful to note that we felt really pinched by the fiscal year 1985 level. What we asked OMB for was \$530 million and 3,731 people. What we ended up with OMB is saying, all right, we recognize that there is a deficit problem and everybody has to tighten their belts. We felt that \$530 million was what we really needed to do our job and to carry out the kind of initiatives that all of us had supported and agreed to.

With regard to the ones that the chairman mentioned, I am not opposed to spending money on those things. The difficulty is if you get cut way below that, below where we are even in fiscal year 1985, then how do you allocate the money when you have got to make very difficult and unpleasant and uncomfortable choices?

We asked for substantially more than even is in the President's budget now, substantially more.

The CHAIRMAN. In terms of people, you had 3,441 back in fiscal year 1984. OMB is holding you to essentially the same figure, 3,491 for 1985, 1986, and 1987. Is there a need for more people? You requested OMB to give you more people?

Mr. PALLADINO. We had requested, I think, some 240 additional people for 1986, but when the cutback was given to us, it was based on the present level of 3,491.

The CHAIRMAN. Your budget assumes, I take it, that there will be a 5-percent pay cut of all Federal civilian employees?

Mr. PALLADINO. Yes. And if that doesn't come about, then we are short another \$8.6 million.

Mr. BERNTHAL. Mr. Chairman, if I could just make a comment here. I have to agree with the general thrust of Commissioner Aselstine's comments that it should be understood that this Commission signed off on a lower number than the one that we agreed with great reluctance to accept, and that was the \$460 million freeze level. That \$460 million level was accepted, I believe, to paraphrase our statement, in the spirit of the times, so to speak. Now we are at \$429 or thereabouts, and that specifically reflects certain presumptions: A 5-percent pay cut and a 10-percent cut in administrative costs; but it does not presume any substantive cuts in any of our other programs.

I think saying that we could use more research money, for example, is an understatement, to say the least. In view of the briefing that we just had last week from the American Physical Society on this very, very fundamental issue of source term work, it is very clear to me that there is a good deal more research that needs to be done in support of our programs.

The CHAIRMAN. I have several pounds of questions, but I think I will turn to some of my colleagues at this point.

Without objection, we will let all members of the committee have 10 days to submit written questions to the Commission on today's testimony, and we hope the Commission can give us some kind of response.

Mr. Kostmayer was here first, but I am going to recognize the ranking minority member, Mr. Lujan, and then Mr. Kostmayer.

Mr. LUJAN. Thank you, Mr. Chairman.

This whole conversation goes on in every committee meeting, as you may know. As a matter of fact, it extends to our homes. I have a big decision to make. My daughter informs me she is in her final year of college and has only got one semester after this summer, and that since she is going to go back to New Mexico that it would just be marvelous if she could go to Spain and spend the summer there and gain 6 hours. So I have a tremendous decision, as you gentlemen do, in how I am going to allocate my resources.

The CHAIRMAN. How does the gentleman stand on this pay cut?

Mr. LUJAN. I don't think it is ever coming. I think you had better look at another source for your 5 percent, but I don't believe that that is going to come.

Chairman Palladino, you say that if this budget is enacted you will have a 5-percent cut; if it is not, it will be an 8.6-percent cut. Is that under continuing resolution? What is the difference there? You say if this is enacted it will be a 5-percent cut; if it is not enacted, then it is an 8.6-percent cut. I thought I caught that in the first part of your statement.

Mr. PALLADINO. I think what I said was that if the pay cut does not come about, then we will have to absorb another \$8.6 million. The pay cut was a 5-percent cut that OMB said they were pushing for.

Mr. LUJAN. So if the 5-percent pay cut does not come about, you are estimating how much?

Mr. DIRCKS. I am Mr. Dircks of the staff. What we are saying is, if we take 5 percent of the payroll, or \$172 million, 5 percent of that is \$8.6 million. It is 5 percent of the total salaries and benefits.

Mr. LUJAN. Commissioner Asselstine, the budget figures don't substantiate what you are saying, that you are going to have to cut out integrated safety assessment, medium priority issues, the safety research, the nuclear waste. They are still in there as programs with a reduced amount. So that just means that either you find better ways to do it, or maybe there are some programs within NRC, as there are throughout any agency, that might be done away with completely. Maybe you need to look at some of those for that \$30 million saving.

Mr. ASSELSTINE. I don't disagree with you that we should make sure that our operations are as efficient as they should be and that we should achieve whatever cost savings we can. The point I was trying to make is that some of those things that I mentioned are not going to be done at all. Others are going to be reduced.

Licensing actions, as the chairman mentioned, are an example of reduced effort. Sure we are going to do more in 1986 than we did in 1985, but we have had a growing backlog of these licensing actions to process for operating reactors. Now we are going to cut back on them; we are not going to do as many as we planned to do in 1986. We are cutting back the number that we are going to be able to do by 250.

Some others are reduced inspection efforts for some of those areas that I mentioned, reduced inspection efforts on problem plants, for example.

If I had to pick which things to fund, I would say those are very high priority items, and we ought to fund those items before we fund some of these other things that are aimed more at reducing conservatisms.

Let me give you another example. One of the things that is being worked on is appendix K, our emergency core cooling system regulations. We are spending money on trying to reduce some of the conservatisms in appendix K. What is the benefit in that? In terms of safety there is not much benefit, because we already know that our existing regulations are quite conservative. What they will do is provide a direct economic benefit to the utility, because they will be able to increase the operating efficiency of their plant.

I have no problem with that, but my concern is that if I have to make a choice between putting more inspection effort on problem plants, looking at maintenance and surveillance testing where we know those are real problems out there in the field, and spending money to reduce some of these conservatisms, my choice is we ought to spend the money on the problems and hold back on those areas that really are going to be focused more on just providing an economic benefit to the industry.

Mr. LUJAN. Well, you have that ability with reprogramming, don't you?

Mr. ASSELSTINE. That's right. And my concern is that with the budget you have before you the majority of the Commission has made the choice in the other direction, the choice that I would not make.

What I am saying is, if you give us the amount that we told OMB was really the base line for us, essentially what we have in 1985, we can do all of those things; we can do more of those kinds of things that I would like to see done on the safety side; and we can still do some of the things that my colleagues would like to see done on the other side.

Another thing that we could do is try to explore creative ways to get the industry to pay for some of those other things that really are aimed at providing an economic benefit or where the principal benefit to be achieved is going to be an economic benefit to the industry.

Mr. LUJAN. But it is not realistic to think that you are going to get \$560 million even though there are some things that you are doing a good job on. As a matter of fact, some of us don't feel—I'll speak for myself—that we ought to really jump up and give anybody an increase.

Mr. ASSELSTINE. What I am saying is the freeze at the 1985 level, \$460 million, all of the Commission agreed when we wrote the letter to OMB that that was a reasonable and realistic request. It was substantially below what we really thought the program ought to be, which was \$530 million. But we felt that a freeze at the 1985 level was a reasonable request, taking into account the fact that the Congress had already reduced us \$20 million in 1985.

Mr. BERNTHAL. Mr. Lujan, if I could just comment briefly without getting into the details of which programs ought to be retained and which ought not to be retained.

In some cases I have agreed with Commissioner Asselstine, for example, on the Integrated Safety Assessment Program. It may come as a surprise, but the chief executive officer of Northeastern Utilities, I believe it is, has been vehemently arguing for the restoration of that program because they want an Integrated Safety Assessment Program, and they want that program carried out on their plant. They feel that it will be useful for them and that it is in the public interest.

Generally speaking, I have to say that this process has been good for us. I don't have a speck of doubt in my mind that there are substantial economies that can be made in this agency.

The budget that we got, especially the initial shock, which was somewhat mitigated later, of the first budget submitted to us has set in process something that I think will result in those economies.

But it doesn't change the fact that this period of austerity, of budget freezes even, let alone additional cuts, comes at a very, very bad time in this business. Here we are with something like 20 NTOL's, as we call them, near term operating licenses, that we are supposed to deal with.

It just seems to me that when you are going through the class 5 white water rapid that is not the time to start changing the way you are playing the game, and in some sense that is what we are being asked to do here.

It is a very, very bad time for the NRC, and I think you have probably heard similar arguments in the last few years with respect to far larger and more important agencies in this Government.

Mr. LUJAN. We hear that from Secretary Weinburger all the time.

Mr. BERNTHAL. That's what I had in mind.

The CHAIRMAN. The gentleman's time has expired.

The gentleman from Pennsylvania.

Mr. KOSTMAYER. Thank you, Mr. Chairman.

Chairman Palladino, all of my questions have to do with the Limerick plant in the southeastern corner of Pennsylvania. I have seven questions. Some of them may require a detailed answer from you, and so if you want to simply respond by saying that you will get it to me in writing, I understand that we have very little time this morning.

Can you tell me briefly, sir, and in a general way what is the current status of NRC regulations regarding the review of financial qualifications for companies operating nuclear powerplants? I understand that in the last 24 months there have been a number of changes in these regulations regarding the financial qualifications as opposed to the safety and health qualifications.

Mr. PALLADINO. Mr. Kostmayer, this case is still in litigation and adjudication, and perhaps the best way to proceed would be to have you submit them and those that are appropriate for the staff to answer we can try to get the staff to answer.

Mr. KOSTMAYER. This litigation has to do with the jurisdiction of the NRC regarding this area, is that right?

Mr. PALLADINO. Which area?

Mr. KOSTMAYER. The litigation you refer to has to do with the jurisdiction of the NRC over financial matters as opposed to safety and health matters and whether or not that is in the jurisdiction of the NRC or State public utility commissions; is that what you are speaking of?

Mr. PALLADINO. No. Our concern is primarily with the safety matters.

Mr. KOSTMAYER. As opposed to the economic or financial matters?

Mr. PALLADINO. Those are generally carried out in relation with the Pennsylvania PUC.

Mr. KOSTMAYER. How would you react to legislation restoring your jurisdiction in this area?

Mr. PALLADINO. I would hate to comment on that off the top of my head.

Mr. ASSELSTINE. Mr. Kostmayer, I think what the chairman is trying to say is the Limerick proceeding is a contested proceeding within the Commission. Ultimately the Commission will have to be the judges on the issues that are in dispute between the parties to the proceeding. I am not sure which issues, quite frankly, are in dispute, although I suspect some of our staff people can tell us.

Mr. KOSTMAYER. Well, there are on one hand health and safety issues; on the other hand there are financial, regulatory, and economic issues.

Mr. ASSELSTINE. That's right. I suspect we can talk about the financial qualifications issue because I think that one was addressed by a rule last year. The majority of the Commission at that time said the Commission in essence would not do any review of financial qualifications, that they would simply rely upon the States to

do that, to handle the financial qualifications. Since this is a regulated industry, the majority of the Commission felt that there was no justification for the Commission doing financial qualifications.

Mr. KOSTMAYER. Do you concur with that or not?

Mr. ASSELSTINE. I don't. My view was that there are still some residual issues that the Commission should look at. So I disagree with that rule. But I think that rule takes the issue out of Limerick insofar as the Commission is concerned.

Mr. KOSTMAYER. I am anxious, as you may gather, to restore the NRC's jurisdiction, and I hope that your view and my view will eventually prevail.

Chairman Palladino, what criteria does the NRC use to determine whether an evacuation plan ensures the safety and well being of nearby residents? In general and as briefly as you can.

Mr. PALLADINO. I can speak to the subject generally. We have staff members who can speak to it more specifically.

There are several aspects to emergency planning. First is to make sure that the State, local, and county people have an organization in place so that they can be brought to bear on coping with an emergency, a system for alerting the people, educating the people.

Mr. KOSTMAYER. May I interrupt? Maybe I can shorten some of my questions by interjecting briefly here. What happens in those instances where local and county governments fail to cooperate with the NRC in the creating of these plans?

Mr. PALLADINO. Well, that's a touchy subject in itself.

Mr. KOSTMAYER. That's why I asked about it.

Mr. PALLADINO. I appreciate that.

Mr. KOSTMAYER. We have some rebellious townships.

Mr. PALLADINO. Basically we have had excellent cooperation throughout the Nation. There is one notable exception. We have had some deficiencies noted in the State of Pennsylvania from time to time, but the State has been very cooperative in getting those things cleared up.

Mr. KOSTMAYER. What about townships, boroughs, and counties in the Commonwealth that are uncooperative and in disagreement?

Mr. PALLADINO. I think the cooperation still has been very good on the whole in Pennsylvania.

Mr. KOSTMAYER. Hypothetically, what if it were not good?

Mr. PALLADINO. I think we would have to deal with that on a case-by-case basis, as we are in one particular case.

Mr. KOSTMAYER. Does the NRC approve evacuation plans that are not regarded as totally satisfactory by FEMA?

Mr. PALLADINO. We look to FEMA for offsite planning; we take the responsibility for the onsite planning. By on site I mean on the site of the plant. When there are deficiencies characterized by FEMA as their so-called class A deficiencies, then we want to make sure that those deficiencies are corrected as part of the planning process.

Mr. BERNTHAL. Mr. Kostmayer, if I could just make a comment on this general questioning area. Neither the law nor our regulations as such are prescriptive on exactly how we must deal with a particular municipality or State or local government entity that does not choose to cooperate in emergency planning. The other side

of the coin is that our regulations do say we are permitted in principle to accept a plan devised by, for example, a utility that the Commission finds acceptable. I think that is the extent of our constraints under the law and our regulations.

As you know, there is a larger issue being played out that I assume you are driving at, and that is the role that the Federal Government may or may not play in this area, and right now neither our law nor our regulations speak specifically to that issue.

Mr. ASSELSTINE. Mr. Kostmayer, if I could add to that. I think Commissioner Bernthal is basically right. We have two determinations to make. First, is there an adequate plan? Second, is there reasonable assurance that it is capable of being implemented so that it will work?

Mr. KOSTMAYER. If I may interrupt just for a moment, because my time is about to expire, that second point seems to be a crucial one, that if you need to rely on local municipalities to see that this plan is properly implemented you are going to require their cooperation. If that cooperation is not forthcoming it throws a glitch into the plan, which seems to me to create a very serious problem.

Mr. ASSELSTINE. That is a question that is present in some licensing proceedings and is likely to be present in others. I think, as the Chairman said, we have to look at those on a case-by-case basis and to see in a particular case whether the requirements that we believe are necessary in order not only to have an adequate plan but to make sure also that it is going to work are present.

The point about FEMA. Typically I think we have not approved a plan as being adequate or capable of implementation if FEMA has said that there are significant deficiencies with either the plan or the capability of implementation.

Mr. KOSTMAYER. Let me say finally, Mr. Chairman, that I want to pursue some of these matters in further detail with Chairman Palladino, if I may, at a later time and in writing.

Thank you, Mr. Chairman.

Mr. PALLADINO. We will respond.

The CHAIRMAN. Mr. McCain.

Mr. MCCAIN. Thank you, Mr. Chairman.

Do any of the Commissioners disagree with the statement that the nuclear industry in America is dead?

Mr. ZECH. I do.

Mr. ROBERTS. It's in poor health.

The CHAIRMAN. Seriously ill.

Mr. MCCAIN. Do you know of any requests for new licenses or new plants, Mr. Zech?

Mr. ZECH. It is not dead, but it is in very poor health. There is no question about that.

Mr. ASSELSTINE. Mr. McCain, if I could add a comment on that. We have already got a substantial commitment to nuclear power. When all of the plants that are now under construction are completed there will be something in the neighborhood of 110 or 120 or more operating nuclear plants in this country. That is a substantial commitment to nuclear power. I don't see a lot of utility executives, though, that say they are interested in ordering another one of these.

Mr. McCAIN. Do you know any? You say you don't know a lot of them.

Mr. ASSELSTINE. I have not met one yet that says we're ready right now or in the near future. There is an effort by the industry to begin to look at some point in the midnineties. I think that is a good effort. It focuses on simpler plants, perhaps smaller plants, better designed plants, better built plants, plants that are easier to build, and with more stability and predictability in the process. If that kind of process goes forward, there may well be new orders somewhere around that timeframe.

Mr. McCAIN. And yet elsewhere in the world some 148 nuclear powerplants are under construction, 9 more are on order, and 157 are in the planning stage. Various nations such as the French will have 55 percent of their electricity generated by nuclear power.

There is a stark contrast here between what is going on in the rest of the world, including along the Canadian border where nuclear powerplants are being built to supply the U.S. energy, and what is going on in the United States. I don't believe the Canadians would be building powerplants to produce energy to sell to the United States if they didn't feel there would be any need for it and that they could make some money off of it.

Mr. BERNTHAL. Mr. McCain, if I could just make a comment. I presume that your question for us referred to the Forbes article in part. I think the Forbes article took a fair amount of journalistic license when drawing conclusions, and I can say flatly it is not true, that nobody—and I can't quite quote it, but I can come close—at the NRC disputes that the nuclear power enterprise is dead, or words to that effect, in this country. I simply don't believe that.

I think that much of the hubbub and arguing and disagreement that goes on here in the 1980's is borne of idleness, because nobody is building much of anything right now. I suspect that when the laws of growth continue to exercise themselves here we are going to see a change in that.

Mr. McCAIN. Nobody is building much of anything?

Mr. BERNTHAL. Nobody is ordering new generating plants in the United States.

Mr. McCAIN. But outside the United States they are.

Mr. BERNTHAL. They certainly are.

Mr. PALLADINO. But they are not even building coal-fired plants. Westinghouse is closing its Lester plant, or at least they announced that they are going to close it over a 2-year period, because there are no orders for steam turbines, and those are steam turbines not only for nuclear power plants but for coal-fired powerplants.

Mr. McCAIN. In addition to that, the French are able to build powerplants that are approximately 4 cents per kilowatthour; ours are running around 18 in some cases. That is very demotivating to most executives.

Mr. PALLADINO. And that is one of the reasons I have been pushing for regulatory reforms, stability of the process, because the claim made by the industry is that the regulatory process is a major contributor to the high cost and the delay in building these plants.

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Mr. ASSELSTINE. Mr. McCain, you mentioned the French program. If I could just add a comment or two on the French program. I think there are some interesting things about it. First, they are scaling their program back too. I think they are finding they are having a lot more generating capacity than they can absorb. They are scaling back to adding on the order of one plant per year or less. That is still new orders, and that is still more than you see in this country.

You mentioned the French are able to build the plants cheaper and quicker. You are absolutely right. I went to one of the newest plants last September right on the coast of Normandy. They are able to build 4 units, large units, in about 10 years and with a peak work force of 4,500 employees for all four units, and they had some substantial civil engineering challenges to face.

I asked the project manager, "How are you able to do that? What is the biggest benefit that you have?" He told me the biggest benefit is an essentially complete design: "We're all building the same thing one right after the other. We started out with an essentially complete design before we started construction. We are one utility; we manage our own construction program, a government-owned utility, and we just build them bing, bing, bing, bing."

That more than anything else, I think, demonstrates why the French program has been successful and why the United States program has not been successful. Because typically in this country you have not had a single point of management for this project. You have designed the plants while you are trying to build them; they are all different, they are not standardized; and there has not been good management of the projects.

We have had projects in this country, single unit sites, with 7,500 construction workers on the site. You just can't productively manage that many people.

Mr. MCCAIN. I am extremely well aware of all the facts that you just recited to me, and yet I am very disappointed that you in particular, but also the rest of the Commission, have not fought more vigorously for simplified design, have not fought for legislation which the Secretary of Energy supported and which you disagreed with in the last 2 years, which has led us to approximately, according to my figures from your employees, 40-some employees per powerplant whether it is completed or not; 40-some employees of the NRC are now working per powerplant at a tremendous waste.

I would also be interested, by the way, in knowing, speaking of the French, the Canadians, West Germans, and the Japanese, how many employees they have in their nuclear regulatory agencies and how much money their budget is per year, and I wish you would submit that for the record when you find it out. Because I think you would find that ours is vastly different.

[EDITOR'S NOTE.—Response to Mr. McCain's question may be found in appendix, I, under Attachment F. See table of contents for page number.]

Mr. MCCAIN. Rather than pushing for more money for safety research, I would like to see you a lot more active in trying to get some simplified designs, some simplified licensing procedures, and a reduction in some of these procedures in which there is case after

case where many unnecessary regulations and orders have issued from your office, which has directly led to a dramatic increase in cost.

I would submit to you that it is not so much because of a general slowdown that there is not continued construction or requests for licenses of nuclear powerplants in this country, but it is because of the cost of doing business.

I think that it is the obligation of this Commission to be a lot more active in that arena as well as what they are in. I will be more than happy to hear from you, not only your response, but I would like to allow the other Commissioners to speak also.

Mr. ASSELSTINE. Mr. McCain, let me start and then the others can add in. I couldn't agree with you more. In fact, I think Commissioner Zech and I have been fairly active in saying we ought to tell the industry this is what we expect if there are going to be future applications in this country. One of the things we ought to say is we want a standardized design, we want a substantially complete or an entirely complete design before you start building that plant. I think we ought to do that.

Some of my colleagues have not been willing to go that far, but at least Commissioner Zech and I are of one mind on that, and we think we ought to do that.

I also think we ought to tell the industry exactly what we want to see in future designs. If we want to see improvements in the safety margins of the plants, we ought to say so; if we want to see simpler designs, we ought to say so; and we ought to say we are not going to accept anything less than that.

Again, the Commission has been willing to say some things like: "We'd like to see these things, we encourage these things." But they haven't been willing to say: "This is what we expect of you if you expect us to give you a license."

I am all for saying if we get that then the Commission ought to be able to say before you start building that plant you have our final signoff on all design issues. Everything that can be resolved before you start building that plant. We should resolve it and then we shouldn't change our mind unless there is a very good reason for doing so.

We shouldn't impose new requirements, we shouldn't add new things, we shouldn't reopen issues unless there is very persuasive reason for doing so.

The quid pro quo is doing it right on the industry part to start with, resolving the issues, and then going forward from there. Where I have jumped off the boat on the licensing reform legislation is to also say: "Oh, by the way, we also won't look at those issues that can't be resolved before construction, like whether the plant has been built right, whether the utility has an operating crew that is qualified to operate the plant, and whether adequate emergency planning is in place."

My view is those issues can't be resolved until prior to operation, but you still ought to provide an opportunity for those issues to be resolved. If we could solve that problem with licensing reform legislation, I'd say by all means let's do it.

Mr. PALLADINO. Mr. McCain, I think I have to interject. If there has ever been a champion for standardization, I'm it. I brought this

to the attention of the industry as soon as I became chairman. As a matter of fact, there was quite a period of time in which there was resistance, especially from the architect-engineers. Over a period of time they have come around to recognizing some of the advantages, not only based on what I said, but what many other people have said.

The program that we set forth in our proposed legislation I think goes right to the mark. You can't begin to prescribe all the details of a standard design before you see one.

But some of the allegations that are made that said that the standardized plant will not address important safety issues or the unresolved safety issues or that there won't be an opportunity for checking out the plant I think are just incorrect.

I am pleased, though, to see that the Commission has joined forces in pushing standardization, and I think we ought to push it just as far as we possibly can.

Mr. BERNTHAL. I promise to make a very short comment. I think it is a plain and simple fact that this Commission will not license another plant for construction that does not have a very, very high component of standardization. What we are looking at today and most of the problems we have had here are problems that began in the 1970's. I don't think anybody disagrees with that, and the kind of apparent disagreement that I think has been somewhat overdrawn by my colleague to the left have been disagreements on such things that have been argued, frankly, by the Commission, like how far can you go in view of antitrust laws and things like that.

Mr. McCAIN. I am way over time and we have got to vote. I would just like to say this. I would hope that you would be able to get together with the Department of Energy, who I think has to play a key role in this, and the proper committees here in Congress and see if we can't get together and shape some piece of legislation, which may not be entirely satisfactory to everyone. However, at least we should try to get together and get some kind of a model up here that on which we can form some kind of agreement.

I know that Chairman Udall would be more than cooperative in this effort. There are a whole lot of us that think we will solve the industry's problems, not by worrying about \$560 million or \$480 million, but with long-term solutions. We should get that kind of framework in place so that we can save this industry and help America's energy needs for the future.

I apologize for taking so much time, Mr. Chairman.

The CHAIRMAN. The gentleman has raised important points.

We will recess for about 10 minutes to go vote.

AFTER RECESS

The CHAIRMAN. The subcommittee will resume.

The next scheduled questioner is the gentleman from Georgia.

Before he begins, let me ask a question that came up in the elevator with a couple of my colleagues while going over to the floor.

Assume that the committee is prepared to move on standardized design and wants to take the lead with this. What do we do? Does the Commission pass a resolution saying we hereby approve design No. 22 of Westinghouse? Do you appoint a committee of wise men

to pick one of the existing plants to say this is our standard, this is the one we are going to standardize? Does the Congress take action. What do we do, Chairman Palladino?

Mr. PALLADINO. Mr. Chairman, our legislation would encourage and set the stage for standardization. The details would have to be worked out.

The process, at least in my mind, would go something like this. A proposal for a standardized design would come in and we would address it by a rulemaking, and in that design they would have to address not only the usual things that we ask for today, but also address the questions related to the unresolved safety issues, the generic issues, and the questions that relate to severe accidents.

The CHAIRMAN. Would we need legislation?

Mr. PALLADINO. I think the legislation as we have proposed it would enable us to go ahead.

The CHAIRMAN. The Commission does not have power now to do it?

Mr. PALLADINO. We have some power, and we are working in that direction. But I think the value of the legislation is to stabilize the process so that one Commission to another it doesn't change. There was a study by a group supported by the House that led to the desire for a bill on standardization.

The CHAIRMAN. Mr. Asselstine.

Mr. ASSELSTINE. Mr. Chairman, I think that we have a large amount of authority now to do things to both encourage and even to require standardization. I think the first step is to tell the industry this is what we expect from a standardized design and to lay that out.

We started working on that, but I think we have to be specific and say what it is we are looking for. Once that is done, then the industry would have to design what to submit to us. We have essentially three reactor manufacturers in this country. Each of them could submit a standardized design that met the requirements that we were looking for, both in terms of the kinds of features that we want to see and in terms of the completeness of the design.

I think we have the authority now to require all of that and to put that framework in place.

The legislation provides some added encouragement. But again, you have to decide in the legislation how far you want to go in encouraging it.

There are at least three parts of the legislation that I have serious problems with, because I think they go beyond just encouraging the kinds of things we have been talking about today. When the Chairman says that we want to deal with future Commissions, what he has in mind and what the legislation really does is starts tying the hands of future Commissions in terms of their discretion and their flexibility to look at some of these items.

Let me mention three problems that I see with the legislation.

First, the legislation does not include now a requirement for Commission review and approval prior to operation of things like the adequacy of construction, the adequacy of the plant's operating staff and emergency planning issues.

That was in our legislation that we submitted last year or 2 years ago, and it is not in the present proposal.

Given the problems that we have had in each of those areas with operating license applicants now, it seems to me not only prudent but necessary for the Congress to say we expect a Commission review and signoff prior to operation of each of those kind of issues. That goes beyond what you need for standardization and to resolve design issues prior to the start of construction. This is really hampering or limiting the Commission's ability later on to look at some of these things.

The second item. The legislation says that you have to put in the combined construction permit and operating license the kinds of tests and inspections and criteria that you are going to use to determine the adequacy of construction as the process goes along; you have to put all of those items in the license.

The difficulty with that is, can you realistically expect to be able to enumerate all of those things, the complete universe of all of the ways to verify that things have been done properly at the outset?

I think the purpose of that provision is to limit the Commission being able to come back later on and say: "Well, we have decided this plant doesn't meet our regulations in some respects;" perhaps there has been a quality assurance breakdown like we have seen in some of the other plants that are now up for operating licenses or that we have been dealing with the past 2 years, and say: "We want more to assure ourselves that in fact the quality of the work is there."

This has been a provision that the industry and the Department of Energy have been pushing for some time to restrict the flexibility and discretion of future Commissions down the road.

The third area where I think the legislation goes too far is on the subject of hearings. Not only would the legislation say that the hearings occur prior to the start of construction, but it would say that any hearing that occurs prior to operation is really at the Commission's discretion. There is no required hearing even on those issues that could not have been raised prior to the start of construction. The Commission can avoid a hearing simply by saying that there is another means of resolving the issue short of holding a hearing on it.

It seems to me that on those issues that you can't raise early on, the adequacy of construction, the adequacy of the plant's operating staff, emergency planning, the kinds of issues that are now being litigated in operating license proceedings, that there ought to continue to be a right to a hearing on those issues prior to operation.

I think if you made those changes in the legislation, corrected those problems, you would have legislation that still encouraged standardization, that is, getting a complete and standardized design and resolving all design issues prior to the start of construction, without creating these other problems and controversies that are raised by the legislation.

The CHAIRMAN. Chairman Palladino, do you have a quick response?

Mr. PALLADINO. Yes, I would like to comment on some of those comments.

The bill does not prevent the Commission from exercising its review of a plant at the end. It does provide for the opportunity for a hearing on those things that could not have been heard or litigated early on. But when you talk about standardization, you are trying to get the standard design reviewed early and settled so that you can give a license. The question of what was not possible to have litigated early comes about when you try to marry a site and a particular design. We haven't precluded those items that could not have been dealt with at that time.

I think what we have done is provide flexibility to the Commission in some of these things and not tied their hands.

With regard to inspection and tests, we are calling for the inspection and tests so that you know what it is that you are going to do, what your basis is going to be for approving a particular design when it is built.

I think there is flexibility to the bill.

The CHAIRMAN. Mr. Darden.

Mr. DARDEN. Thank you, Mr. Chairman.

Chairman Palladino and members of the Commission, this is my first opportunity to meet with you. I want to say as a new member of this committee it appears that the degree of criticism and comment from both the consumers and industry seems to be equally forceful from both sides. So apparently you are perhaps striking some note of balance as you discharge your responsibilities.

I do want to note that as a former district attorney or prosecuting attorney I know there are a lot of serious flaws in our criminal justice system. But I am concerned when I read several times in the newspapers and we hear about grand juries being convened by Federal prosecutors to investigate possible criminal violations by licensees of the Commission or the Commission staff.

It concerns me that there are problems that can't be worked out by the Commission and the staff with the Justice Department and that these matters can't be handled through the administrative process more effectively.

Could you tell me how many investigations are pending, where these investigations are located, and the status of where you stand in your dealings with the Justice Department or perhaps State and local authorities in some of these areas?

Mr. PALLADINO. There are several aspects to your question. With regard to the grand jury investigation regarding the NRC, we were told about it without warning. We were also told that anything that we might try to do to appear to interfere with this is in itself a criminal act, and so we have just let that process go on.

There are specific cases before the Department of Justice involving licensees. If you would like to hear more on that, I will ask our deputy general counsel to give you a summary of it.

I am concerned when these grand jury investigations are instituted because it does imply that perhaps either we are not doing our job or we are not getting the licensee to do the job.

Mr. DARDEN. I realize you have some constraints because of the pendency of the action, but could you give us a status report and some background on the investigation of the NRC itself?

Mr. PALLADINO. I only know what I was told by the Department of Justice in its original letter.

Mr. DARDEN. What have they told you?

Mr. PALLADINO. They just said they were going to start a grand jury investigation into the activities of certain members of the NRC to determine whether we had by commission or omission committed illegal acts. I don't have much detail on what is going on with regard to that.

Mr. DARDEN. By illegal acts, are you referring to violations of criminal statutes?

Mr. PALLADINO. Yes. That's what the Department of Justice said in its letter to us.

Mr. DARDEN. Were the acts alleged with any specificity?

Mr. PALLADINO. Not that I recall.

Mr. ASSELSTINE. Mr. Darden, the one thing they did say was that the focus was on senior managers. Not necessarily the working level people in the agency, but the focus was more on senior managers.

They did not indicate that they had any specific targets at the time they notified us. But I think it is also fair to say that they are not telling us very much about what is going on. It is their grand jury and they are really running it and, I think, not providing us current information on what is being considered.

If I could make a comment on some of your earlier questions.

I think the grand jury situation is unfortunate in a number of respects. First, it does indicate that we did not do anywhere near the kind of job, in hindsight, that we should have done in maintaining good relations with the Department of Justice. I think the fact that we have this kind of an unprecedented grand jury indicates that at least the people running that grand jury in the Department of Justice, presumably at fairly senior levels, have substantial questions about some of the things that have been going on in the agency over the past few years. Otherwise something like this fairly unprecedented action never would have been begun.

How it all turns out, will turn out, I don't know. I don't think any of us know. But at least some of the things that we have been seeing from the Department of Justice and in looking within the agency indicate, at least to me, that we didn't do as good a job in policing our own house as we should have done, and now Justice is essentially stepping in and doing it for us.

Essentially our hands are tied, and they are saying don't do anything until we're finished and then you can proceed from there.

I also think that the grand juries related to some of the individual plants are indicative of a concern on the part of perhaps some U.S. attorneys around the country that perhaps we are not doing as vigorous a job as we should be doing. I think the kind of concerns that Mr. Uda' mentioned in his opening statement are shared by some of these U.S. attorneys, not just by the elected representatives of people around some of the plants. That is a concern as well.

Mr. PALLADINO. I should point out that the specific cases are generally referred to the Department of Justice by our own Office of Investigation, those involving licensees.

Mr. BERNTHAL. I just want to take some small exception to the idea that it is the role of this Commission to maintain good relations with the Department of Justice. I think that is always highly

desirable, and one hopes that we do have good relations with the Department of Justice. But I should hope that we do not seek to maintain a less than arm's length relationship with the Department of Justice should they choose to undertake a free inquiry to any wrongdoing by anyone that is associated with this agency.

Mr. DARDEN. I am glad you suggested it. It appears that they have drawn the line by saying that you are under investigation. I am more concerned about the fact that you apparently feel some restriction on getting to the bottom of the matter yourself. I don't see why Justice could come right in and say that you can't investigate or try to clean your own house and this is solely their prerogative.

Mr. BERNTHAL. Most assuredly, we are under some restrictions right now.

Mr. PALLADINO. We have had our Office of Investigation and our Office of Inspector and Auditor contact the Department of Justice on issues that we want to look into so that we don't hinder their process, but it does hinder our process to some extent.

Mr. DARDEN. Doesn't this type of action require authorization at the highest levels, the Attorney General, for example?

Mr. ASSELSTINE. I would certainly think so. I would be very surprised if an investigation of this type didn't go right to the top of the Department of Justice.

Mr. PALLADINO. I am not persuaded. As a matter of fact, I have discussed with my general counsel whether we shouldn't make some overture to make sure that they were notified, but the recommendation was let the process go on because the mere fact that I would be going to a higher level might have an implication that I'm trying to somehow quash the investigation, and we certainly are not trying to quash the investigation.

Mr. DARDEN. Who actually notified you about the investigation? Do you remember who signed the letter?

Mr. BERNTHAL. Mr. Darden, let me just make a comment here. I really don't think it is terribly useful for us to speculate on how high this thing might have been cleared in the Department of Justice. In fact, emphatically I think it is something we should not try to do. There has been more printed in the press, frankly, which you might wish to reference—I hesitate to say that—than the Commission probably knows or cares to comment on, and you'll simply have to judge the accuracy of those accounts. But I don't think it serves a useful purpose for us to consider and speculate on the question of in what quarters it might have been cleared or not cleared. That's the Department of Justice's business.

Mr. DARDEN. You don't recall who signed the letter?

Mr. PALLADINO. Yes; I do know who signed the letter. I asked my general counsel if there was a problem in giving it to you. He said, Well, if you can possibly avoid it, avoid it.

Mr. DARDEN. But it's probably already been in the Washington Post.

Mr. PALLADINO. It probably has been. But I will chance it. Julian Greenspun is the person that signed the letter.

Mr. ASSELSTINE. Mr. Darden, if I could return to just one comment, just to clarify what I meant when I said working relations between us and the Department of Justice. One of the items that is

of concern, and there has been correspondence to this committee on the subject, is the matters of referrals to the Department of Justice and what that means in terms of NRC being able to conduct its own investigations at the same time. That is the area in particular where we have a direct working relationship with the Department of Justice. That has been one of the sources, I think, of considerable concern and controversy in this whole thing.

What I meant when I said good relations, I meant that working relationship has to be done on a professional basis, well documented, well coordinated, with both sides dealing fairly with each other, and I think in the past we haven't had that.

Mr. PALLADINO. Mr. Darden, I am reminded that the committee does have a copy of the letter we got from Mr. Greenspun. We sent it over shortly after we got it.

Mr. CHAIRMAN. Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman.

By way of opening remarks, I would just like to say that I have grown increasingly concerned over the past year by the Commission's novel interpretations of the laws and regulations governing nuclear power. I understand that in those cases in which I disagree with the position taken by the Commission majority that it earnestly has believed that it has fulfilled its duty of protecting public health and safety. However, the Commission is a legal institution and each Commissioner is also charged with upholding the provisions of the Atomic Energy Act and agency regulations.

Process is very important. It is the means by which we formally assure that safety standards are met. There are proper avenues to pursue exemptions and amendments to a nuclear license. But under no condition is it acceptable for the Commission to routinely ignore and violate its own rules and procedures.

I want the Commission to know that I think all of us have an open mind with respect to changing any laws or regulations if it can show them to be unduly restrictive. But until that point of reconsideration is made we do in fact expect those regulations to be abided by.

In the past the NRC authorization, section 5, has allowed NRC to consider a utility's offsite emergency preparedness plan. Is this provision necessary, in your opinion?

Mr. PALLADINO. Is it necessary for what?

Mr. MARKEY. Is there anything which prohibits the NRC from evaluating a plan developed by a utility but not implemented at this particular point?

Mr. PALLADINO. There is nothing that would preclude us from reviewing it, but there are things that would preclude us from accepting it. When a utility plan is submitted it has to have some basis to be implemented and to be exercised and executed. In the one particular case where this is a major issue that still has not been done in the proposed utility plan.

Mr. ASSELSTINE. Mr. Markey, I do not think we need that statutory provision. I think we have all interpreted our existing regulations as encompassing the authority to consider a utility-prepared plan.

Mr. MARKEY. In how many cases has the NRC considered a utility emergency plan?

Mr. PALLADINO. One. When you say has considered, do you mean is considering?

Mr. MARKEY. Is considering. One?

Mr. PALLADINO. Right.

Mr. MARKEY. And that's Shoreham?

Mr. PALLADINO. Yes, sir.

Mr. MARKEY. Could you provide for the record the funds expended for the review of the LILCO emergency plan for Shoreham?

Mr. PALLADINO. Yes, I will try to provide that.

Mr. MARKEY. Thank you.

[EDITOR'S NOTE.—The Commission's response to Mr. Markey's request may be found in appendix I. See Attachment G.]

Mr. MARKEY. I do not want to go into detail about the so-called Diablo Canyon transcripts at today's hearing, though I am continuing to pursue this matter. However, I would like to ask a set of questions about the Commission's decision to license Diablo Canyon.

The thing that I have never really understood is how, on the one hand, the NRC could require Diablo to be built to the most stringent seismic specifications of any plant in the United States and, at the same time, conclude in its proceeding that the area is of low to moderate seismicity and the earthquake emergency planning issue was not material to licensing.

Presumably NRC does not require its licensees to do unnecessary things, let alone the very expensive and time-consuming task of building a plant to withstand a large earthquake.

Could you please explain this apparent contradiction to me? In doing so, could you inform us whether the U.S. Geological Survey agrees that the Diablo site is of low to moderate seismicity?

Mr. PALLADINO. I will answer as many of those as I can.

First of all, the plant is designed to meet a particular seismic spectrum of vibration and G factors, and it is designed so that it could safely shut down under the safe shutdown earthquake.

With regard to the frequency, when you speak about moderate seismicity, that relates to frequency; it doesn't necessarily relate to what is the maximum level to which you are going to design it.

When it comes to emergency planning, you are dealing with a different subject.

Incidentally, the seismicity is litigated. In this case it has been one of the most litigated factors in the whole set of issues.

When you come to emergency planning, what you are trying to do is establish a system that involves State and local government to develop a plan, make sure there is an organization in place, so that in the event of any kind of emergency they are able to cope with that emergency. It also involves an alerting system; it also involves consideration of alternate routes in the event that evacuation is required.

We don't consider any particular initiating event in deciding that. We don't say let's assume that we have this initiating event and therefore have a plan for that event and then say, well, let's assume this initiating event and then have a plan for that. The factors that most frequently have to be dealt with are considered in developing the plan.

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Mr. MARKEY. If Diablo is a site of low to moderate seismicity, why did you require it to be built to the most stringent standard of any plant?

Mr. PALLADINO. As I said, the frequency does not have to do necessarily with what one might postulate could be the worst earthquake that could happen there. What we are talking about is earthquakes that, as I recall, are a 1,000 to 10,000 per year probability.

I just want to make one other point. This whole question of the impact of earthquakes on Diablo Canyon emergency planning has gone to the courts and the courts have said what we did was perfectly right—and it was unanimous—that we exercised our responsibility correctly.

Mr. BERNTHAL. I think it is indicative of the conservatism with which one approaches the question of potential seismic activity. This is not an exact science; it's a predictive science when you are trying to determine what the potential for earthquakes is at a given site in California.

Nobody disputes that California shakes a lot. The real question is, what is the potential for a major earthquake at that particular site? The 200-year history that we have for that particular site suggests there have been two events in the last 200 years, one of which, according to the USGS, arguably approached the level at which, in their own words of defining the likely consequence, it could disturb drivers of motor vehicles. But nevertheless, we recognize the potential out there, and therefore we build a plant to very, very high seismic specificity.

Mr. ASSELSTINE. Mr. Markey, I wonder if I could get in on this just briefly. Let me talk about three points.

First, the one thing that the Commission ignored in its Diablo Canyon decision that I think is crucial is the possibility that an earthquake of the size of the safe shutdown earthquake or lower might in fact cause an accident requiring emergency planning.

The majority assumed, just as Chairman Palladino has described, that everything is going to work just the way it is intended, that the plant is designed to be able to withstand an earthquake of that size and therefore you just don't have to worry about it.

The nature of emergency planning is that that is precisely what you worry about, that things don't work the way they are intended. The Commission said we're not going to worry about an earthquake the size of the safe shutdown earthquake or lower, those more likely kinds of earthquakes, because we think the plant will just withstand those and ride them through. It is inconsistent with the fundamental purpose and philosophy of emergency planning to start with.

Second, the Chairman said these emergency plans aren't oriented toward a particular initiating event. That may be true. But the Commission routinely allows the litigation of the question of whether the emergency plan can adequately accommodate certain kinds of initiating events, and we routinely allow litigation of whether you can accommodate snowstorms or events that occur simultaneously with an accident, snowstorms, hurricanes, tornadoes, those kinds of things. For the first time the Commission said earthquakes are somehow very different than all these other things, and

therefore we don't have to consider them. I don't see any factual basis or logical basis for that kind of a conclusion.

The third point the Chairman made is that the courts have upheld what the Commission has done, so therefore we are right.

I would say, first of all, the courts did not have the transcripts of the Commission's deliberations. Second, I would say that the responsibilities of the Congress and the responsibilities of the public to understand how the decisions of this agency are made are in many respects very different than the courts.

It is quite clear that the courts, particularly if you have a conservative majority on the particular panel that you might draw in the D.C. Circuit, are prepared to give great deference, particularly on factual determinations, to the Commission and not to second-guess it. It seems to me the question is far from closed simply because the D.C. Circuit chose not to step in and comment on the manner in which the agency reached its decision, particularly since they didn't have the transcripts of the Commission's deliberations in any event.

Mr. PALLADINO. The transcripts don't have anything to do with the matter. Our decision speaks for itself. That's what counts.

We do a lot of things in reaching our decision. Not only closed meetings. We had discussions, hall walking. I believe we have had open meetings, but I don't remember whether it was particularly on this issue. When it's all done we speak with our decision. I think that is an important point that the court made as well.

Also, with regard to what natural phenomena you consider, you look at the frequency of that natural phenomena. Where snowstorms occur frequently they are very important. But we are talking about earthquakes whose probability is very, very low, and the probability of having an accident occur because of that is also low.

If you say, well, what about the consequences of a lesser earthquake than safe shutdown earthquake? I say there may be a probability, a possibility that could bring about an accident, but the probability gets so vanishingly low that you just don't find a basis for considering it.

Mr. BERNTHAL. May I just make a brief comment, Mr. Markey. I was given to understand that it is the job of the courts primarily, and I think the Supreme Court has made this very clear, to determine the legal and procedural validity of the Commission's decisions. On that score—and I think Commissioner Asselstine states that, in fact—this Court has found by a three-to-nothing vote—and I would hope it is not just conservative versus liberal—that what this Commission did was entirely legal and within its discretion. The single dissenting member on one part of the decision chose to take issue with the technical findings of the Commission, and I would submit it is primarily the job of the Commission to make these technical judgments.

I could give some assistance, I think, in providing a logical explanation for why tornadoes and earthquakes in particular as natural phenomena are quite different from blizzards, and hurricanes, and other things, but I think I won't press the point right now.

Mr. MARKEY. Thank you, Mr. Chairman.

The CHAIRMAN. We have had a good exchange this morning. I have a number of other questions, but I think I will submit most of them.

This has been a time of exchanging ideas and philosophies.

Let me ask one question. At previous times we have had the Advisory Committee on Reactor Safety before us. I hear a lot of talk and gossip around and argument among people interested in the nuclear enterprise about it. Is ACRS doing the job? Is it useful? Should it be continued? Should it be modified?

Would the Commissioners like to take a whack at that one?

Mr. PALLADINO. Mr. Chairman, I believe the ACRS is one of the most valuable instrumentalities we have for performing our duties. They are objective. It is made up of good people who do a dedicated job and, I think, do give us their independent opinions.

I would urge that we keep it. I right at the moment don't think of any particular point that I would suggest for change, but maybe on further reflection we might be able to come up with something like that.

The CHAIRMAN. Does anyone disagree with that?

Mr. ASSELSTINE. Mr. Udall, I would just add an additional comment. I think the ACRS is quite capable and useful on the things that they do now. If there is a weakness, I think the weakness is you don't have a large number of people on the ACRS with strong operational backgrounds, people that understand what is going on in the workings of the plant in terms of operations, those kinds of situations. It seems to me the Commission needs more on that subject.

There are a variety of ways to do that. One way you can do it is to restructure the ACRS and provide it with more people with operational experience. We have added a few people in the past couple of years when vacancies have come up, people with more direct operational experience, and I think that has helped.

Another way to do it is to create an independent safety board along the lines of the National Transportation Safety Board. We owe you a report on that alternative.

Quite frankly, my mind is still open on that. There are a number of members of the ACRS who have said you really need that and you don't get that from us and you ought to have that kind of an organization. I think Hal Lewis in particular has spoken out on that subject.

There are other alternatives to get the Commission more oriented toward an operational viewpoint, what's going on at the plants, what the problem areas are. We have an office that focuses on that kind of work. Right now it is down at the staff level, in the NRC staff.

Another alternative would be to raise that office up, make it report directly to the Commission, and I think something to get the Commission more heavily involved and oriented toward the problems of the operating plants is something that is very necessary, whether it is restructuring the ACRS, putting in place a safety review board to look at operating experience, and accidents, and accident-type situations, or moving the existing office that we have. I'm not sure yet. But I think we need something along those lines.

The CHAIRMAN. Fred.

Mr. BERNTHAL. I just wanted to make a comment or two, because I am not sure I entirely agree that the ACRS does not need some reevaluation in its activities and functions.

I think that the function of that group and the way it has gone about its business has been, in too large extent, unchanged from the time it was established. It troubles me, for example, that the Commission does not regularly—and I think this is nothing new to the new Chairman of the ACRS, because I discussed it with him recently—it troubles me that we don't have more, if not day to day, at least frequent exchange, that they are not involved in a current technical exchange with the Commission, as our blue ribbon panel of experts, as specific issues arise.

I have not felt—and this was one point on the legislation 1 year ago the Department of Energy submitted—for example, that the ACRS any longer should involve itself in the routine of reviewing every single plant license. I simply think that we have moved beyond that. It should be a panel of experts that considers incident-urgent problems of the moment, and reports quickly.

The CHAIRMAN. Could it be helpful in the case of the standardization, for example, that we were talking about, as kind of a general thing rather than a lot of specifics?

Mr. BERNTHAL. It certainly can. But my concern is that there has been, if anything, too much focus on what have been the traditional and routine functions and not enough on exactly what the Commission needs at the moment.

The CHAIRMAN. Admiral Zech, you and Mr. Roberts haven't said much today. Is there one thing I haven't gotten to you about that you ought to tell me?

Mr. ZECH. I would be happy to give you just a few brief comments, Mr. Chairman.

First of all, I support the budget as submitted. I do think the research program is tight. I do feel that we can always use more money. But it seems to me that the budget we have submitted to you is a reasonable one and we should be able to do our job with that.

You made some comments in your original opening remarks, Mr. Chairman, that I would like to touch on just very briefly.

You said that we are involved in protecting investments of the utilities, that we cut corners, that we don't appreciate the difficulties we have, and we ignore our own rules. I take issue with that statement. I don't think those are correct statements at all. I think we do carry out our responsibilities to the best of our ability with due regard for the public health and safety.

I have come to know my fellow Commissioners in the past few months and consider them all very decent, hard working Americans full of integrity, each of us with different backgrounds, all trying to do what we think is right.

The CHAIRMAN. I couldn't agree more with the assessment of your colleagues.

Mr. ZECH. Thank you, sir.

As far as the priorities that I see for the Commission, I think we should be concentrating on the operating plants to make sure they are safe. I think we should make sure that the plants under construction are coming on in a safe manner. Third, I think we should

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look to standardization, which we have discussed very briefly this morning.

I agree with Commissioner Asselstine's view on standardization. I think we do see eye to eye on that. I do not agree with him on his view on the legislative package which we have submitted to the Congress, which I think is an excellent one and will help toward standardization as well as help discipline our regulatory process, which I think needs disciplining, as do other matters in the nuclear energy world.

I think discipline is important. I think this legislation moves in that direction, and I would ask for your support in that, Mr. Chairman.

Those are all the remarks I have for you, sir.

The CHAIRMAN. I told Chairman Palladino I would be glad to introduce the Commission's package if they will get it to me in legislative form. That doesn't necessarily imply any endorsement or approval, but it implies that this is a serious proposal from a legitimate and important agency that ought to be before the Congress for discussion.

Mr. ZECH. I would certainly appreciate that also, Mr. Chairman. Thank you very much.

The CHAIRMAN. Mr. Roberts, do you have any gems of wisdom?

Mr. ROBERTS. No; I am very short on gems of wisdom, but I will be very brief. Standardization has taken on a mystique. Everybody is for standardization. No one would argue against it. But my background is the manufacturing business, and I am somewhat nervous about how we implement so-called standardization. I think it is a whale of a good idea, and perhaps a reasonable scheme can be devised. But, again, based on my background, I am a little apprehensive that some nice word is all of a sudden going to cure a lot of ills that have accumulated for a lot of reasons over a number of years.

The CHAIRMAN. One of the things that occurred to me is the value of legislation on standardization would be that it would project the national consensus and give more status to the search for the right answers here. It seems to me that it would be important for Congress to put its stamp of approval on that aspect of standardization.

Mr. ROBERTS. No question.

The CHAIRMAN. I agree with you. It seems to be a magic word, but the implementation is the question.

The other value of legislation might well be to expedite this whole thing. We had pretty good luck with the high-level waste bill. I am not so proud of some of the things I have done in this institution, but I think that was a good thing, the high-level waste bill. We set out a roadmap and said we're going to get a decision, we're going to have a high-level repository and we are going to do it by the following timetable and it will be completed in the year so and so. I think we might set out a timetable or a mechanism to get the standardization by law, at least empower the Commission to set up a timetable and have decision points that have to be made. We will look at that as we go down the road.

Mr. PALLADINO. I think the difference in the waste area is an activity of the Government and the design area is an activity of the industry. There may be some blending of your desire to set a sched-

ule and the ability of the industry. I think that would have to be carefully thought out.

Mr. Chairman, one other thing with regard to the National Transportation Board item. We had Brookhaven make a study on that, and I think we transmitted a copy of the study yesterday. However, the Commission itself has not yet addressed what we think ought to be done with it.

Mr. BERNTHAL. Mr. Chairman, could I just add my urging to that of my fellow Commissioners. I think it is very, very important for Congress to speak to these issues.

The question arose as to whether the Commission could do standardization itself. Well, of course it can do much of the standardization itself, but it does have a focusing effect on the Commission when the Congress supports us and affirmatively says that it expects us to do a thing and perhaps even sets a timetable for doing it.

The CHAIRMAN. I agree.

Well, we have had a good hearing this morning, and I thank you all for being with us. That concludes the testimony today.

[Whereupon, at 12:15 p.m., the hearing was adjourned.]

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NUCLEAR REGULATORY COMMISSION BUDGET REQUEST FOR FISCAL YEAR 1987

THURSDAY, FEBRUARY 6, 1986

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, DC.

The subcommittee met at 9:55 a.m., in room 1324 of the Longworth House Office Building, the Honorable Morris K. Udall (chairman of the subcommittee) presiding.

The CHAIRMAN. The subcommittee will be in session.

The purpose of our meeting this morning is to discuss the matters pertinent to the NRC budget request for fiscal 1987.

Last May, you will recall, the Interior Committee reported legislation authorizing the Commission \$460 million for its 1987 program. That bill is now awaiting action by the full House.

Since that time, we've had Gramm-Rudman-Hollings become the law of the land and under that bill, about \$18 million of the Commission's appropriation for fiscal 1986 has been sequestered, effective March 1. This reduces the Commission's budget for the current year to about \$400 million. Still deeper cuts must be made in overall Federal spending for fiscal 1987 if more drastic sequestrations are to be avoided.

The Commission has submitted a revised 1987 budget of \$405 million. Although this represents a slight increase over the revised 1986 budget, the 1987 proposal represents a substantial reduction from the \$460 million authorization that the members thought last year would be necessary.

Thus, the principal question we'll have to wrestle with today is how the proposed reductions will affect the agency's mission and the safety of the Nation's nuclear power program.

The NRC must do its part, of course, to help reduce the Federal deficit. This subcommittee wants to assure itself that there is no fat in the budget and that the direct beneficiaries of the NRC regulatory program are bearing their fair share of its cost.

By the same token, we intend to look very closely at the proposed cuts to make sure that they will in no way lessen the level of protection that the public deserves and demands from the hazards of the nuclear enterprise.

In addition to looking at the budget, I hope we might examine a host of regulatory issues of current concern. In particular, I'd like to get the Commission's views on its performance in the TVA matter. Our ongoing inquiry into NRC's regulation of TVA leads

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me to agree with Commissioner Asselstine when he said that "TVA's nuclear management breakdown represents a failure not only of TVA's nuclear program, but also of NRC's regulatory program."

By all appearances, he may well be correct in characterizing the TVA foulup as "the single greatest failure of the NRC regulatory program since the Three Mile Island accident."

The fact that NRC ultimately reacted and is now attempting to address the problem can in no way justify proceeding on from here as though the failure of TVA had not occurred. Lessons of this episode need to be learned and acted upon.

The Commission needs to look very hard at exactly what happened and why. It must determine whether its regulatory program at TVA is actually on the road to repair. And the Commission needs to consider whether a TVA-like breakdown may be occurring at other plants and how we can assure that such a breakdown will never happen again.

Before we turn to the Commission in testimony this morning, I would like to note that this will be the last budget hearing at which Chairman Palladino will appear before our subcommittee. At the end of June, Chairman Palladino will complete his term, having served as chairman longer than anyone in the Commission's history and, indeed, having served for roughly half of the agency's lifetime.

On behalf of the subcommittee, Chairman Palladino, let me take this opportunity to thank you for your faithful service to the country in what I know has been a demanding and often thankless task. And I hope during the course of this morning's proceeding you will share any insights based upon your tenure that you might care to offer.

Mr. Lujan, do you have anything?

Mr. LUJAN. Mr. Chairman, I don't have an opening statement. I just want to welcome the members of the Commission and to you, Mr. Chairman, let me tell you that it's been a pleasure working with you and we certainly shall miss you and your sound advice throughout the years.

I just want to wish you good luck in your new endeavors.

Thank you very much.

And to Mr. Zech, congratulations to you.

Mr. ZECH. Thank you, sir.

The CHAIRMAN. I don't know whether it's congratulations or commiserations. [Laughter.]

Mr. LUJAN. Whatever. You'll be in the middle next time.

The CHAIRMAN. Mr. Seiberling wanted to be here, but couldn't. He asked me to read just a short statement in his behalf.

Last week, an earthquake struck the area of northeastern Ohio. Mr. Seiberling represents. The epicenter of the earthquake occurred between 10 and 15 miles from the Perry nuclear plant, just outside Mr. Seiberling's district. The plant is not yet in operation, but the fuel is scheduled to be loaded at the plant in the very near future.

Although, apparently, there was no major damage, structural damage, from the quake, preliminary readings at the plant indicate

that the earthquake might have caused seismic forces in excess of those for which the plant was designed to withstand.

Currently, only vendors of the devices that measure the seismic forces at the Perry plant are analyzing the data from these devices.

Mr. Seiberling and Congressman Eckart of Ohio both feel it's essential that there be an independent review of the seismic data. They have made a formal request that the Advisory Committee on Reactor Safeguards and its seismic consultants also review this data.

Mr. Seiberling is concerned that if the force of the earthquake did exceed the force that the plant was designed to withstand, then perhaps NRC seismic regulations need to be reevaluated.

Those are the points that Mr. Seiberling wanted me to make.

[EDITOR'S NOTE.—Prepared statement of Hon. John F. Seiberling may be found in appendix II. See table of contents for page number.]

The CHAIRMAN. With that, Chairman Palladino, you are recognized for your presentation this morning.

[Prepared statement of the Nuclear Regulatory Commission (NRC), with attachments, and James K. Asselstine may be found in appendix II.]

**PANEL FROM THE U.S. NUCLEAR REGULATORY COMMISSION
CONSISTING OF HON. NUNZIO J. PALLADINO, CHAIRMAN; AND
COMMISSIONERS THOMAS M. ROBERTS, JAMES K. ASSELSTINE,
FREDERICK M. BERNTHAL, AND LANDO W. ZECH**

Mr. PALLADINO. Well, thank you, Mr. Chairman. Thank you and Congressman Lujan for your kind remarks.

Mr. Chairman, and members of the subcommittee, the Commission appears before you today to discuss NRC's fiscal year 1987 budget request. With me today, as you noted, are my fellow commissioners, the Acting Executive Director for Operations, and the directors of the principal offices of the Commission.

With your permission, I would like to submit our prepared statement for the record and summarize it orally.

The CHAIRMAN. That will be perfectly satisfactory.

Mr. PALLADINO. Thank you, sir.

Our budget request for fiscal year 1987 is for \$405 million. This is \$13 million below our fiscal year 1986 appropriation, prior to any reduction resulting from the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985; that is, Public Law 99-177. Our 1987 budget is \$43 million below our fiscal year 1985 appropriation. Our staffing ceiling is also being reduced by 122 full-time equivalent staff.

Appendix A to our testimony graphically demonstrates how actual purchasing has decreased ever since 1981. The past 2 years have seen the most significant reductions.

The Deficit Control Act will reduce NRC an additional \$18 million in fiscal year 1986. A reduction of this magnitude almost half-way through the fiscal year will have a significant impact on the programs necessary to support our regulatory responsibilities.

While we recognize and are supportive of the need for budget austerity, the Congress and the public must recognize that with

these reduced resource levels, the NRC will be performing less regulatory oversight activities, not more. Our capability to respond to and resolve issues from unplanned events in a comprehensive and timely manner will be diminished. At the same time, many forward-looking actions and programs necessary to meet future issues and challenges have been reduced or eliminated.

Our prepared statement and attachment B summarizes the NRC budget request by major budget categories. The reductions vary in magnitude, but all major programs are affected. Please note that the table in attachment B does not reflect the detail resulting from budget cuts due to Public Law 99-177.

With regard to the nuclear reactor regulation program, it is in transition. While demand for resources needed to review new license applications decreases, the demand for resources needed to evaluate safety-related licensing actions, respond to events and perform overall project management is increasing with the number of reactors coming on line. Budget cuts will severely constrain our ability to resolve major unanticipated problems at operating facilities and will reduce or eliminate other improvements.

With regard to research, in terms of constant dollars, our research budget will be lower in fiscal year 1987 than it was when the agency was formed in 1975. Between 1981 and 1987, the nuclear regulatory research program will have been reduced by more than \$110 million, or about 53 percent. Joint programs with other parties and improved operating economics cannot make up for these reductions over the years. The reductions in the fiscal year 1987 research budget will mean an end to some programs and a significant delay in or deferral of others.

Concerning inspection and enforcement, our inspection and enforcement program will continue to emphasize on-site inspection of reactors. However, work on quality assurance initiatives, special team inspections, and technical support will have to be reduced.

Finally, with regard to the nuclear materials safety and safeguards, we will continue to carry out our extensive budgetary responsibilities under the Nuclear Waste Policy Act and Uranium Mill/Tailings Radiation Control Act, and to meet other significant priorities in our nuclear materials safety and safeguard program.

However, the fiscal year 1987 budget request does not include resources to implement the recently enacted low-level waste act amendments. We are examining where we can reprogram resources from other important activities within the agency.

The details of our budget request are contained in the budget submission, which has already been provided to the subcommittee. Attachment C to our testimony provides examples of NRC accomplishments in fiscal year 1985. We would also like to submit for the record our responses to the questions included in your letter of invitation.

In closing, let me re-emphasize that the budget request submitted to Congress represents a minimum program, in the view of the Commission. We urge your strong support for the full amount of our request.

This completes my summary, Mr. Chairman, of the Commission's budget testimony.

The CHAIRMAN. Well, thank you very much.

Do other Commissioners wish to be heard?

Mr. ASSELSTINE. Yes, Mr. Chairman.

The CHAIRMAN. Mr. Asselstine.

Mr. ASSELSTINE. Mr. Chairman, I'd like to add a few brief comments on the administration's fiscal year 1987 budget request for the NRC. The Commission's testimony has identified a number of NRC programs that will have to be scaled back or eliminated altogether as a result of the reductions to our budget request imposed by OMB. As the Commission's testimony notes, many of the NRC's forward-looking programs will either be reduced substantially or terminated. This will leave us with little in the way of change from the reactive approach to regulation that we have employed in the past. It will also hinder our ability to respond effectively to serious operating events when they do occur.

The consequence of this reactive approach to regulation is, I think, clear. By the end of 1985, eight operating reactors—Davis-Besse, Rancho Seco, San Onofre unit 1, and TVA's Sequoyah and Browns Ferry plants—were shut down as a result of serious operating events or a breakdown in the licensee's management so severe that neither we nor the licensee had confidence that its plants could be operated safely. This group of plants is equal to the number of plants that received new full-power operating licenses last year, and represents about 8 percent of the total number of plants with operating licenses today. The Commission's original fiscal year 1987 budget proposal contained a few modest efforts to improve our ability to identify such problem cases before they result in serious operating events that pose a potential hazard to the public. These efforts included the expanded use of team inspections to review plant operations, maintenance, and surveillance activities, and modification work at the plants. They also included efforts to take a more integrated look at safety at a few plants. These were steps toward proactive approach to regulation that is needed if we are to improve the performance of the existing plants and reduce the number of serious operating events. In addition, the Commission had begun some regulatory review work on advanced reactor concepts, such as the high-temperature, gas-cooled reactor and the PIUS light-water reactor, that hold the promise of greater simplicity, higher margins of safety, and ease of construction when compared with existing reactors. I believe that the consequence of reducing or eliminating these more forward-looking programs will be that we will see more serious operating events of the type experienced this past year. As the number of operating plants continues to increase, as the existing plants grow older, and as we see continued evidence of the complexities and hidden vulnerabilities in these plants, we should be doing more rather than less forward-looking work.

Like my colleagues on the Commission, I, too, recognize the need for budget austerity. But rather than eliminate these needed programs, I would prefer to explore some more creative measures to obtain the necessary funding. An alternative, which appears to have the support of the administration and OMB, is to obtain additional funding from the industry. I would recommend that the Congress consider two options here.

The first is funding the NRC's high-level radioactive waste-disposal program from the nuclear waste fund established by the Nuclear Waste Policy Act. Our high-level waste program is focused on the licensing of the high-level waste repository. Just as with DOE's repository development program, our repository licensing program is required to support the use of commercial power reactors. The costs of the repository program—regulatory as well as developmental—should be paid by those who benefit from the use of nuclear power. This could be accomplished in a variety of ways, including direct reimbursement to NRC from the nuclear waste fund for the annual costs of our high-level waste licensing and research expenses, or by means of an annual license fee to be paid by DOE and recovered from the fund. Whatever means is used, it seems to me that the utilities through the fund, rather than the taxpayers, should pay for the regulatory costs of the repository that are attributable to the commercial industry.

The second option that I believe the Congress should consider is the imposition of annual charges on our licensees to recover a greater portion of the costs of our reactor safety research program from the industry. At present, we charge license fees to cover the costs of our licensing and inspection activities that can be attributed to a particular facility. However, we do not take that approach with our safety research programs. Many of these programs provide a direct benefit to the industry. For example, as the Commission's budget testimony and our more detailed budget description note, some of our research programs are aimed at determining the acceptability of plant operations with degraded safety equipment, such as cracked pipes in boiling water reactors and weakened steam generators in pressurized water reactors. These and other conditions constitute reductions in the quality and condition of safety systems from what was expected when the plants were licensed. Other NRC research programs are aimed at reducing the level of conservatism in our existing safety regulations—actions which can reduce plant operating, maintenance, and surveillance costs and which could result in higher power levels for the plants. Because it has been difficult to quantify and assign such benefits to individual plants, we've not attempted to impose the costs of these research programs on the industry. While the industry has voluntarily participated in some safety research programs, the lion's share of the cost has been paid over the years by the taxpayer.

I believe that a greater portion of the costs of these programs should be recovered from the industry. There are several ways of accomplishing this. One means is the imposition of annual charges as proposed in the Consolidated Omnibus Budget Reconciliation Act of 1985. Whatever the means used, recovery of a greater portion of the costs of our safety research program from the industry, coupled with payment of the repository regulatory costs from the nuclear waste fund, would provide the funds needed to carry out a set of aggressive, forward-looking regulatory initiatives to improve the performance of our commercial, nuclear-power reactors without increasing, and perhaps even by reducing somewhat, the financial budget on the Federal taxpayer. I believe that now is the time to consider such a creative approach for funding NRC's regulatory programs.

Thank you.

The CHAIRMAN. Well, that is a creative couple of suggestions and I'm sure that we'll want to take a look at them.

It's a great irony—demanding that regulation be improved, and expanded, and demanding that forces be cut, and budgets be cut at the same time. I don't think that you can have it both ways.

Chairman Palladino—are there other Commissioners who wish to be heard?

Mr. PALLADINO. I think Commissioner Zech.

Mr. ZECH. I have a brief comment.

The CHAIRMAN. Admiral Zech, we'll hear from you.

Mr. ZECH. Thank you, sir.

I don't have a prepared statement, Mr. Chairman, but I would like to make just a few brief remarks.

First of all, I support the budget of \$405 million for fiscal year 1987 as it's submitted. I fully realize that we must exercise careful managerial supervision to assure that our resources are used as efficiently and as effectively as possible to carry out our mission to protect the public health and safety.

We have to continue to try to identify those functions in which resource reductions can be made and have only minimal adverse impact.

I would like to emphasize the importance of physical consolidation of our presently scattered agency here in Washington, DC. As you know, we're in 11 different buildings in the Washington, DC, and Bethesda area. In my judgment, that's certainly a very significant area in which we can, indeed, economize and not only save money, but do a better job.

It's very, very difficult with the major parts of our staff scattered around as they are. It makes our job extremely difficult.

I'd just like to make a couple of brief points that Commissioner Asselstine referred to. First of all, it's my opinion that the plants that we have shut down right now are not caused by budgetary problems, certainly not of which I'm aware. I certainly agree with Commissioner Asselstine that we should improve our ability to identify performance trends. But I'm not aware that resources are a problem in that area.

I believe that more Federal resources will not, and should not, displace the private-sector's responsibility for constructing, maintaining, operating, and managing their nuclear powerplants.

I do not believe that needed programs will be eliminated with the fiscal year 1987 budget of \$405 million. I have no objection to user fees as long as they will help. But it's my view that we need much more analysis and much more review of specific proposals before a user-fee program would be all that useful for our budget.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Admiral Zech. We are looking forward to working with you in your new capacity.

Mr. ZECH. Thank you, sir.

The CHAIRMAN. Any other Commissioners?

Mr. PALLADINO. Apparently not, Mr. Chairman.

The CHAIRMAN. Chairman Palladino, this may well be your last appearance before us, as Chairman, certainly. And as I said earlier, you've done a good job in a very difficult and trying situation. I

know we haven't always had agreement between the committee and the Commission on all matters, but I think we've tried to work well and constructively with you.

It might be very valuable, if you would wish to do so, to take a few moments at this time to report to us some of your personal conclusions—you have already given your testimony on behalf of the Commission—but your personal conclusions and recommendations that you might leave with us as you go on to bigger and better things.

Mr. PALLADINO. All right. Thank you, Mr. Chairman. I'll be pleased to do that.

I have, I believe, given you a copy of the proposed remarks.

The CHAIRMAN. I have them, and they'll be made a part of the record and you may give us as much of it or as little as you see fit.

[EDITOR'S NOTE.—The above-mentioned personal remarks may be found in appendix II following Mr. Asselstine's prepared statement. See table of contents for page number.]

Mr. PALLADINO. I'll go through them. I don't think that it will take very long.

Mr. Chairman, as you indicated, since this may be my last time I will be appearing before you, I would like to provide some personal observations based on my experience as Chairman of the NRC for more than 4½ years. My observations concern NRC's major goals, the future of nuclear power, and nuclear regulation, and some suggestions for the Congress.

First, my observations concerning the accomplishment of NRC's major goals. During the past 4½ to 5 years:

Our regulatory oversight of the nuclear industry has resulted in continued assurance of public protection; in fact, I believe that, as a general proposition, nuclear power is safer now than ever before;

Two, we have licensed about two dozen new reactors, with proper regard to safety and with little or no unwarranted delay. We also completed the Three Mile Island 1 restart proceedings.

Three, we have made much progress in the clean-up of TMI 2 and in waste management;

Four, we have made significant advances in defining a safety goal, and I hope final Commission action on a policy statement on this matter will occur before my term ends;

Five, we have improved control over the requirements NRC levies on the nuclear industry; and

Six, we have proposed legislation to the Congress to streamline the licensing process, focusing on encouraging and providing incentives for the use of standardized nuclear powerplants in the future.

However, some important goals have not yet been accomplished. I have in mind the following:

First, full understanding of the radioactive source term and its implications for nuclear regulation lies well in the future;

Two, also, there are still too many operating incidents and construction problems; these indicate that our common goal with the nuclear industry—achievement of excellence—has not been fully achieved in all cases.

With respect to the future, I believe that the attainment of confidence is a key objective. And let me explain.

If nuclear power is to continue to play an important role in America's energy mix, it must be backed by confidence—confidence both in the nuclear industry and in nuclear regulation.

One result of continued incidents and problems at nuclear facilities is a persistent uneasiness about nuclear power on the part of the public, investors, and the Congress. In such a climate, regulatory reactions necessarily increase. When incidents occur, we must react.

The nuclear industry has the job of building nuclear facilities correctly and operating them safely. Therefore, if the industry wants the regulatory reactions to be reduced, it has to reduce the incidents and problems.

Fewer incidents and problems should also reduce people's uneasiness about nuclear power. In short, the better the industry does its job and the closer it gets to excellence, the more confidence there will be in nuclear power.

However, we as regulators have the job of making sure that the nuclear industry does its job right. Thus, the better we do our job, the more confidence there will be also.

To do our job better, some of the major things I believe that we need to focus on in the future are as follows:

First of all, to help assure that the public will continue to be protected, NRC's highest priority should be to keep the pressure on the industry to strive and achieve excellence in all aspects of nuclear facility operations and construction.

The United States is now close to having 100 operating nuclear powerplants. Since only about a quarter of that number of plants are still under construction, we have to reorient the bulk of our activities to concentrate on operations.

Improvements have been made in our ability to regulate operating plants, to learn about incidents, and to learn from them as well. However, we need to give continuing attention to these operations and to learning from all incidents.

Because of the great importance of reactor operator proficiency and proper maintenance, I suggest that NRC consider increasing its requalification examinations of licensed operators and its monitoring of the nuclear industry's maintenance practices.

NRC also needs to develop the best ways to act on the many warning signs that exist before serious problems develop. The goal should be to find the root causes and to fix them early on.

NRC should continue to thoroughly investigate serious incidents or accidents that do occur, again by focusing on the root causes and corrective actions needed to prevent recurrence.

Finally, NRC needs to understand the effects of aging on plant equipment and operations before aging causes problems and before NRC has to deal with numerous requests for extension of plant life.

Now let me turn to some suggestions for the Congress. I will begin by noting that, when my term is up, I will have appeared at approximately 70 congressional hearings. I also will have signed approximately 600 letters to Members of the House and Senate. Given that base of experience, I hope you will not think me presumptuous if I provide the following thoughts for you to consider as you oversee NRC and deliberate on nuclear-power legislation.

One of the bright spots about my job as Chairman has been the ability to observe the outstanding work of many of the Government employees at the NRC. We have a truly dedicated and talented staff whose main interest is in fulfilling NRC's responsibility to protect public health and safety. I hope that in carrying out your oversight of the agency, the Congress can from time to time recognize the excellent contributions of the NRC's staff.

Also, NRC must have adequate resources to do its job. During my tenure alone, the Congress has cut the budget request by several tens of millions of dollars. Ultimately, we can only regulate to the extent we are funded.

And I should add that I do believe there are opportunities for us to take creative steps, such as outlined by Commissioner Asselstine.

With regard to future legislation, I recommend that you:

Pass some form of licensing reform legislation that we and others have submitted; and

Pass a form of the Price-Anderson legislation that assures the public will get prompt compensation for valid claims in case of injury to life or property if a nuclear accident occurs. Although earlier, I supported an approach with no cap, and I would still support that, I would prefer a Price-Anderson Act with a cap to no act at all.

I think if we don't pass a Price-Anderson Act, we will not be able to provide assurance that the public will be promptly compensated for losses.

Last, I urge you to reconsider my recommendation of a year ago to change the NRC to a single administrator form of agency.

As we move toward an agency that oversees only operating facilities, I believe we move further from a commission form of leadership that is best suited to debate.

Further, given the present legal restrictions on Commissioners' ability to discuss points of view before reaching decisions, even the viability of debate is in question.

A single administrator is also more likely to be able to implement the efficiencies needed in times of agency budget reductions.

If, however, the Congress retains the present Commission structure for the NRC, I would recommend careful review and possible revision of the Sunshine Act. In its review, the Congress may wish to consider the studies conducted by the Administrative Conference and the American Bar Association.

In closing, Mr. Chairman, I want to say that I sincerely appreciate the opportunity to have known you and other members of the committee and to have worked so closely with you over the past 4½ years, and I wish both you and the Commission well in the years ahead.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Palladino. Your words carry a lot of weight in light of your experience. As I indicated in the beginning, when you have finished your full term in June, you will have served longer than any other person in this capacity and I think it therefore gives some considerable weight to the suggestions that you've made.

Mr. PALLADINO. Thank you.

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The CHAIRMAN. I'll reserve my time for now. Mr. Lujan, do you have some questions?

Mr. LUJAN. Yes, I do, Mr. Chairman. We're all, of course, these days concerned about the whole budgetary impact on the Federal Government.

I'm just wondering, in that line, if within NRC, and other agencies, for that matter, is there a group specifically charged with looking at how we're going to meet these reductions?

You know you're going to have an \$18 million reduction for 1986 because of Gramm-Rudman. Apparently you're working on the way by attrition. You're down 122 employees. That didn't seem excessive to me. I looked around and I thought, well, what if we were to reduce the number of Members of Congress? And I figured that we could reduce 431 of them. The four of us sitting here could probably run the whole outfit. [Laughter.]

I'm sure the other three would agree with me. [Laughter.]

But a 3-percent attrition, reduction doesn't seem to be too bad.

Looking at those suggestions of streamlining that we've been kicking around for a long time, combining the process for operating and construction license, the standardization, certainly the administrator form rather than a commission—is there someone, some group charged specifically with looking at how do we meet those requirements of reduced funding?

Mr. PALLADINO. Yes; Mr. Lujan, we do have a resource management unit in the organization that looks carefully at the programs that we're carrying out and makes recommendations through the EDO to the Commission for places where we can make savings or where programs would be eliminated if reductions were made.

I should point out that while we talk of, say, a 3- or 4-percent reduction at this time by the Gramm-Rudman-Hollings Act, coming this year, in the middle of the year, will give us some real challenges.

You must recognize that we are a labor-intensive organization. We do the regulation. We have to have inspectors. We have to have people to carry out licensing actions, and the reviews, and analyses that go with them. We have to send people, when we have problems, to the site.

And so, even if further reductions were to come, and we want to keep our people that we need—I'm not saying that we can't accommodate some reductions. I think efficiencies are always possible—but there is a point at which it would cut into our ability, if we cut more people, to do the job that we have before us.

But since we are labor intensive, that means that one of the first things that we have to take account of is our salaries. And the salaries are a significant portion of our budget.

So, when we say we're going to keep the salaries, then the impact on the technical support areas increases and so the reductions there are greater than just the overall cut office to office.

I don't know if I responded to all your questions.

Mr. LUJAN. Well, I was just more interested in some group whose sole responsibility was that function of where we make reductions because we sit here and we look at—well, 5 percent, anybody could absorb that. I have a little bit of difficulty with that even at home, how we're going to reduce expenditures.

But we don't, and I'm sure each one of you has your favorite programs, as we do—but someone who can realistically take a look at whose responsibility is that.

Mr. PALLADINO. I should note that the 5 percent comes after other reductions that have taken place in our budget. Nevertheless, we are working to absorb the cut.

Mr. ASSELSTINE. Mr. Lujan, I would agree with what Chairman Palladino said. We do have groups that tend to look at those things.

But I also think that, human nature being what it is, some of those initiatives have to come from the top. And I think it's up to us at this table to identify areas where we can see some greater efficiencies in what we do.

The workload really is changing. In some areas, the workload is expanding and we need more people and different kinds of people than we've had in the past. Responding to the operating events is a good example. I think we have a large number of people now devoted to the TVA problem. I suspect that number will even grow because of the complexity and size of the difficulties there. That's a big resource eater.

At the same time, the licensing workload is going down. One area that I think we can achieve substantial savings that I proposed and that a majority of the Commission agree to is reducing the number of lawyers that we have.

Mr. LUJAN. Right on. [Laughter.]

Mr. ASSELSTINE. I think we can save 25 percent of what we have now by consolidating the two legal offices we have into one single office reporting to the Commission and taking a hard look at the declining licensing workload. While I haven't forgotten full agreement on my target of 25 percent, at least I do have agreement among a majority of the Commissioners to develop a plan with the objective of significant savings in positions.

Mr. LUJAN. I'm in a perilous position here. I'm sitting between the lawyers, as you can see.

The CHAIRMAN. This is getting serious. [Laughter.]

We had a hearing the other day where one of our colleagues quoted a statistic that the United States has 6 percent of the people in the world and 68 percent of the lawyers.

Mr. LUJAN. It seems that way sometimes, Mr. Chairman.

The CHAIRMAN. You could run for reelection on a platform of reducing the number of Government-employed lawyers. You're guaranteed the election.

Mr. LUJAN. Yes, sir.

Mr. BERNTHAL. Just a brief comment. By the way, any time a lawyer suggests that we should get rid of lawyers. I'm not going to take 5 seconds to hesitate. [Laughter.]

I agree, basically, with Jim's characterization and I want to give a very short answer, if I may, to your question, Mr. Lujan.

We don't have a special group to carry out the kind of choice-making function that I think you're referring to in tough budget cuts. But, in my judgment, that's the job of the Commission.

In many respects, the job of the civil service is continuity. And our staff, I think, carries out that primary function very admirably. But it's our job to make the tough choices in policy and it's our

job to sit down and look at the continuity that they very often suggest—it's usually spreading the pain—and to decide which programs should be eliminated and where our resources should be allocated.

I believe the group that you're seeking is sitting at this table and it's our job to carry out that function.

Mr. LUJAN. One final question, and I don't want to use up a lot of time.

I find some merit in your proposal of using the nuclear waste fund for the research into that activity. I'm also bothered by the fact that we've added other expenses to it. Some of the Price-Anderson moneys could possibly come out of there.

Have you talked about that? I'm sure DOE's first reaction is going to be, well, we don't have enough in that fund right now. But on further analysis, it may be that that's a legitimate expense of the nuclear waste fund.

Mr. ASSELSTINE. Mr. Lujan, we have had some discussions with DOE, with Ben Rusche, about this. I hope I'm not mischaracterizing his position, but I think he's been supportive of the concept of providing at least some funding from the waste fund to cover our licensing expenses.

I think he has more concerns about the approach that's used than about the concept, by itself. And I think his preference has been in the past toward the license fee that we could collect on an annual basis from DOE and then DOE would recover the money from the fund, rather than NRC tapping into the fund directly.

I think that's an accurate characterization of his position. I think, again, DOE has been fairly supportive of the concept.

Mr. LUJAN. I must warn you, though, that in voicing some consideration of that, it's not for additional money into NRC, but probably to be able to further reduce taxpayer dollars going into it and replacing it with those industry dollars.

So I just want to make sure that you——

Mr. ASSELSTINE. I understand. But we've had a continuing problem, particularly with OMB, on this for the past 2 years because every time we put in the money for our waste program, they chop it out and say: "Well, that ought to be coming from the waste fund. You don't need that money. Just go to the Congress and get the authority to tap into the waste fund."

The practical effect of that is we always lose money every year. That money gets chopped out and it never gets—well, then we have to reallocate our funding to make sure that we cover the waste fund program.

Mr. LUJAN. Thank you, Mr. Chairman.

The CHAIRMAN. I have to step out for just 1 minute. I'll give the gavel to Mr. Murphy and be right back.

Do you have any questions?

Mr. MURPHY [presiding]. Mr. Chairman, I did have one question to ask Mr. Palladino to explain his comments on the Price-Anderson legislation.

As you know, it's been processed through subcommittee and is now pending before full committee. I'd like to have you explain your thoughts on that.

Mr. PALLADINO. All right. Thank you, Mr. Murphy.

My approach to Price-Anderson was to try to get for the public all the protection that it needs or should have, both with regard to life and with regard to property. So I supported the proposal that the Commission submitted.

Mr. MURPHY. Is that the Seiberling proposal that there be unlimited liability?

Mr. PALLADINO. No; it's somewhat different proposal, where there would be retrospective premiums, but they could be counted on year after year until all the costs were covered.

Mr. MURPHY. So it would be no cap at that point—at that thinking, there would be no cap on total liability, but would be paid off by retrospective premium.

Mr. PALLADINO. That's right, in addition to the primary insurance.

Mr. MURPHY. Yes.

Mr. PALLADINO. Now, what has concerned me is that in the debate over various approaches, that there might be no Price-Anderson Act at all. And that would defeat the very purpose that I was trying to achieve.

So it led me to conclude that if I had to face no Price-Anderson Act at all, I would rather see one with a cap rather than seeing none.

Mr. MURPHY. But you don't have a cap to suggest? Have you reviewed what happened in subcommittee or—

Mr. PALLADINO. Well, I didn't take specific time to study what is a proper cap. But I think it has to be large enough so that the range can cover quite a spectrum of claims.

Mr. MURPHY. Yes, Mr. Bernthal.

Mr. BERNTHAL. Mr. Murphy, I just wanted to comment. You mentioned the approach that Mr. Seiberling has made to this issue. I would suggest that the chairman of this subcommittee deserves substantial credit for what I thought was the forthright and wise way in which he approached the whole issue of Price-Anderson.

One can quibble over the figure which was initially introduced for what the cap ought to be, whether it ought to be \$10 billion or whether it ought to be \$3 billion.

We're going to arrive at some reasonable compromise, or the Congress will arrive at some reasonable compromise on that. But I think that with the leadership that Chairman Udall displayed in this area, it's pretty clear to me now that there is going to be a sensible piece of Price-Anderson legislation that will emerge from the Congress, eventually. And I wanted to pay some credit where it's due here.

Mr. MURPHY. Thank you.

The CHAIRMAN. I thank the Commissioner.

Mr. MURPHY. The chairman's back. Welcome back, Mr. Chairman.

The CHAIRMAN. Do you have any further questions?

Mr. MURPHY. No further questions. Thank you. Thank you, gentlemen.

The CHAIRMAN. The gentleman from Arizona.

Mr. McCAIN. Thank you, Mr. Chairman, I have a number of questions and it may require another round. I hope not.

First of all, Chairman Palladino, I'd like to also echo the remarks of Chairman Udall in expressing appreciation for your service in a very, very difficult and trying position. I notice that you may have close to the record for numbers of hours of testimony and letters written to members of Congress and one on ones with various members of this committee and others.

So I do appreciate, and I'm sure that everyone associated with the industry, is very appreciative of your years of dedicated service.

I would also like to express my congratulations or condolences to Commissioner Zech for his promotion, Commissioner Zech, and I believe that you bring to this Commission a background which is very important. That is a lot of hands-on experience with nuclear-powered equipment. I think the record of the U.S. Navy stands very clearly as a very outstanding one. We would not have achieved that record if it had not been for many people such as yourself.

In hearings over the previous 3 years, I have beaten the same drum. I guess I feel compelled to do so again. That is this problem that continues to plague us concerning standardization of design. Those of us who support this hope it could lead to less requirement for oversight and regulation as with other nations throughout the world.

Particularly, I think, given the Gramm-Rudman situation, it is even more important that we pursue this issue of standardization and licensing reform.

As you know, Commissioner Zech, the Commission has had its own standardization bill, H.R. 1447, before the subcommittee. In fact, it was Chairman Udall that introduced it, and I am convinced that unless we have a bill of this nature, that the U.S. nuclear option is going to be lost.

It's not worthwhile to go through all the problems of acid rain and all the other problems that afflict this country when we generate energy from other sources, with the exception of hydroelectric power.

My question to you, Commissioner Zech, is would you as Chairman of the NRC, take a visible and assertive position in informing Members of Congress about the benefits of this legislation?

It appears to me that for a variety of reasons we lack a focal point on the issue and that people who know the regulatory process best are themselves best suited to help us in attempting to achieve this goal.

Can you, and will you, take a role on this bill?

Mr. ZECH. Yes, I will. I think it's a very important bill. Your emphasis is well taken. I think standardization is—well, let me put it this way—I see three priorities for our efforts in nuclear regulation in our country. The first is to do whatever we can to ensure that the current plants, the current operating plants, operate safely. And the second is to do whatever we can to insure that the plants under construction are built with quality and then operate safely. And the third is standardization. Standardization is something that is very much needed, in my judgment, in the nuclear industry in our country. I believe that standardization would bring about improvements in safety, improvements in reliability, improvements in

economic use of nuclear power in our country. And without going into great detail, let me just quickly enumerate why I think so.

First of all, standardization will allow us to focus on design that a consensus would agree are excellent design. It would focus on training and allow us to train people so that they can go from one plant to another.

It will allow us to use lessons learned better than we do now, with so many different utilities and plants involved in it. Lessons learned in standardized plants can be translated quickly, understood quickly, and applied.

It would increase maintenance efficiency because when plants are built, the same as in many other industries in our country, maintenance becomes understood better, practiced better, and works better.

Plants would be operated better. Efficiency of operation is so important. We have fine operators in our country. I've had the opportunity so far to visit 57 different plants in our country. One thing that I've been impressed with is the operators themselves.

On the other hand, if the plants were design standardized, the operators would, indeed, be able to do an even better job, in my judgment.

And, last, perhaps management. Management of the different plants throughout our country differs. It is different in the different utilities and in the way they practice their management. If the plants were standardized, I'm convinced that we would have more standardized management, more exchange of views throughout the various utilities.

In summary, standardization is clearly needed in our country if the nuclear option is to survive, which I think it should and must.

Mr. McCAIN. Well, thank you. Do you have any views as to what's necessary for us to press forward with this proposal?

Mr. ZECH. I do; and the first thing that I would respectfully request from Congress is that this legislation be passed.

There are those who will say that standardization—we can do it ourselves in the NRC. I suppose, indeed, we can.

On the other hand, I think it's so important for Congress to put its symbol of emphasis on standardization, to send the signal that's needed to the industry, to all the vendors, to the architect engineers, to the contractors and subcontractors, that standardization is the right thing to do in our country.

So, whereas, we might be able to just put out a rule ourselves and say, standardization will come about, I simply think that it's very important that Congress take its own review of the subject and give approval to standardization. So I think that's needed. I think along with that, I think—and there is, in my judgment, there is a movement in industry and through those involved in nuclear matters, there is consensus pretty much developed that standardization is necessary.

There's much to do, though. Even defining it is important. So there's much to do. But I do think that the first step should be that the Congress should pass this legislative package. It's a step that's vitally needed. It will bring standardization right the fore. And it would allow us to proceed in a leadership role, which I think we should maintain, and keep, and keep strong. But it would give us

tremendous support towards bringing the regulatory process into more standardization and more discipline.

Industry needs discipline, as does our regulatory process. But I do think that the first step should be passage of the legislation that's here before Congress now.

Mr. ASSELSTINE. Mr. McCain, I wonder if I could add a couple of comments?

Mr. MCCAIN. Indeed.

Mr. ASSELSTINE. I agree with virtually all of the characterization of the benefits of standardization that Commissioner Zech has just gone through. But I don't think this legislation is going to do very much to help, quite frankly, and for three reasons.

First, the legislation does not really mandate standardization. I think it should. I think the Congress ought to do: "We want standardized designs. We want those designs to be essentially complete before the start of construction so that you're not designing the plant as you're trying to build it." And I think the legislation ought to mandate that.

And without the legislation mandating it. I don't think that's likely to happen and I think we're likely to repeat the mistakes of the past.

Indeed, many of the industry contacts to the Commission already have indicated that they want to keep open the flexibility and the options to do things as they were done in the past and which led to the large number of different designs that we now have.

Second, the legislation ought to address the problem of management. Commissioner Zech mentioned that management has been a problem in the past and that he thinks improvements can be made through standardization.

Those ought to be mandated. We ought to have a high degree of assurance before construction begins on a plant that the utility has a team in place that has experience and that knows what they're doing.

We ought to mandate what we're looking for in the design, too. We ought to mandate that we're looking for simpler designs that are easier to operate, and build, and that don't present the kinds of challenges, and complexities, and hidden vulnerabilities that many of the existing plants have surfaced over the past several years.

And we ought to look for higher margins of safety than we have in the existing plants to reduce the risk of accidents.

My final problem with the legislation is that it attempts to streamline the process by cutting the public out of the process, by denying the public an opportunity to raise legitimate issues at least one time in the proceeding.

And the legislation, I think, goes too far in cutting the public out of an opportunity to raise some issues.

We ought to have standardization. We ought to have legislation by the Congress to do it. But it ought to be fair legislation to all participants in the proceedings. It ought to be legislation that brings about some of those attributes of the Navy system that you mentioned. It should have attributes like simplicity of design, large margins of safety, a strong emphasis on quality—looking at the total concept of the plant, not dividing it up into portions that we pay attention to and other portions that we don't. And it should

have rigorous requirements on construction, maintenance, and operation.

And finally, even if you have legislation for standardization for the future, you still have to worry about the 100 or 120 reactors that have been built under the old system. And I think an essential component of the future of the industry is making sure we face up to and address those problems.

Mr. McCAIN. Well, I'm partially in agreement with you and partially in disagreement.

One of the reasons why we want new legislation is because of the failures of the old system. I don't think any legislation should address that. That's your job right now. And to include that in a piece of legislation I think would be at best superfluous. And to indicate that Chairman Udall or I would support a bill that cuts the public out of the process is less than kind to our intentions and less than accurate as far as the thrust of this legislation is concerned.

I also would like to remind you that any piece of legislation that is proposed is open for amendment, and change, and for the input of others. I can assure you that there is no cutting the public out of the process in the intention or the effect of this legislation. I think it's not accurate for you to describe it as such.

As far as mandating higher margins of safety, the whole thrust of this legislation is that we can have higher margins of safety, and simplified design, and licensing procedures, in my opinion, is what provides that.

Now, what you are proposing, from what I read from your proposal here, I can assure you would never pass the Congress of the United States. This is because what you are proposing is an omnibus bill which would basically revamp the entire industry. From a legislative viewpoint, the entire way that not only this industry in America is run, but the way that your Commission itself is run.

Now maybe that's necessary. But my desire here, and I believe, from my careful reading of the legislation as proposed by Chairman Udall, is simply to bring about a simplified design and licensing procedure.

If these other areas that you discuss are necessary, and they may be, I don't think that they should apply to this particular piece of legislation. If you try to apply it, you are lessening the chances of any legislation being passed.

So, I think your points are well taken. But to think that that could be incorporated into some kind of vehicle that would pass the Congress of the United States I think flies in the face of my experience here.

Would you like to comment? And I know I'm way out of time, Mr. Chairman, but go ahead, please.

Mr. PALLADINO. May I just take 1 minute?

I think it's important for the Congress to act soon because if there's a resurgence in new orders, it ought to be based on encouragement for standardization, strong encouragement. And I think the bill that we have proposed does exactly that.

It would encourage standardization by giving the opportunity for combined CP&OL. But that would require an essentially complete design. That's an important benefit to the industry and I think is a

very important incentive. There are other incentives provided in the bill.

I don't believe that a bill ought to mandate a standard design or even a few standard designs. DOT doesn't mandate that there shall be so many Buicks and so many of various kinds of vehicles. The FAA doesn't mandate that there are supposed to be standard designs of this character or that character.

I think it is important, though, to encourage the industry to do standardization, because to bring about the benefits of standardization is going to take many years. We do have quite an existing cadre of plants that we're going to have to work with. But if we don't start standardizing soon, we'll have that problem well into the future when we shouldn't have.

Mr. McCAIN. Thank you.

Mr. PALLADINO. Mr. McCain, I also thank you for your kind remarks.

Mr. McCAIN. Mr. Chairman, I have other questions, but—

The CHAIRMAN. Mr. Rahall.

Mr. RAHALL. I have no questions, Mr. Chairman. I do want to, however, congratulate Chairman Palladino on his years as Chairman of the Commission and congratulate him on his efforts to protect the American public.

Thank you.

Mr. PALLADINO. Thank you, sir.

The CHAIRMAN. Well, I think we're near a consensus. This has been very instructive for me to listen to the Commissioners and my distinguished colleague from Arizona.

Admiral Zech is clearly right in suggesting that you're better off to have an act of Congress setting a policy than an agency, however highly regarded the agency is. It's an important thing for the Congress to say, we, the people of America, through our elected representatives believe standardization is the policy and to set forth this policy. I think Commissioner Asselstine is also correct in suggesting that you have a better standing and a better base to go forward if the Congress has held hearings, invited people of widely different views to come and discuss the situation.

And I'm going to look forward to seeing what we can do with regard to standardization and the legislative package. I think this discussion is very helpful.

Let me ask Chairman Palladino, how many reactors do we have now, with operating licenses?

Mr. PALLADINO. Well, the table I have in front of me says that we now have 95 plants licensed to operate. Two, in addition, have low-power licenses for operation up to 5 percent.

The CHAIRMAN. And how many are at earlier stages of construction?

Mr. PALLADINO. How many are in various stages of construction?

The CHAIRMAN. Earlier stages than those you described?

Mr. PALLADINO. In addition to those that I indicated, the table shows at the moment that there are 30 construction permits that have been granted. However, I'm not sure that all of them are actively being pursued. But I think the vast majority are actively being pursued.

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The CHAIRMAN. Let me comment on two other matters that have been raised here today.

One is the discussion about a single administrator for NRC. We were having a debate here not too long ago about our Indian gambling bill. It's important that there be public confidence if we're going to have Indian bingo and other gambling activities, that we have confidence that organized crime is not involved and you have somebody who can crack down on failures to meet the requirements.

I was citing a number of different Federal agencies, including some in which you have a very strong chairman. You keep a commission or a board, but you have a very strong chairman who is the operating head and who runs the show.

I think of the FAA. I think of the Federal Home Loan Bank Board, and Paul Volcker of the Federal Reserve. CAB for a long time had a chairman who ran the agency. It was simply considered that that was the way to go.

I'm not so sure we have the clout or we're ready to go all the way to a single administrator, but I think we ought to at least consider the benefits of having a system in which the commission has an input, but the chairman is an active operating chairman and not just one of five co-equals.

I've shed tears of sympathy many times for Chairman Palladino being bombarded with letters from Members of Congress, what does the Commission think about this or about that, and being unable to give a definitive reply that binds somebody or that people can rely upon.

I think we've got to look seriously at the structure of the Commission and see if we can't do better and maybe consider this model of the strong administrator, chairman of the agency which still has some collegial aspects.

That brings me to my other thought.

There's been a tendency, human tendency, in Government that an idea sweeps through and becomes adopted and we never go back and take a look at it, dig it up and see if it's rusted or if time has proven its value. That's a case that, in my instance, I may dismay some of my liberal friends, but this whole idea of the Sunshine laws that we've had in the past 20, 30 years—a good idea, based, at least, on the good rationale that the public's got a right to know how its business is conducted and what's going on, and that we don't have back alley, back door meetings deciding important matters of public policy.

But I think this Commission has been handicapped unduly by strict observance, overly strict observance of some of the laws that were well intended, but have, in effect, prevented the kind of compromising conversation, backgrounder, personality conflicts, where you can get two people in a room and nothing will be done, but if I talk to each of them separately and privately, you can get the result.

I'd be interested in knowing what the commissioners feel. Chairman Palladino talked about it a little bit on his personal remarks earlier today. But I'd be interested in comments on these two items from any of the commissioners, the item of the Sunshine laws and the item of maybe keeping a commission form for the NRC's func-

tions, but strengthen the powers of the Chairman and make him more of an operating head.

Does anybody want to comment on that? Admiral Zech?

Mr. ZECH. I'd be happy to. First of all, on the chairmanship, Mr. Chairman, I agree with you 100 percent, that the Chairman should be able to have a strong leadership role and do what's necessary.

I personally intend to do that. I will do my best to get the support of my colleagues, but I intend to be a strong Chairman. I intend to work very closely with the executive director for operations, Mr. Stello, and his staff. They will report, as you probably know, directly to the chairman. They do not report to the other Commissioners.

When I become the Chairman, I intend to be a strong Chairman and do the very best I can to get my fellow Commissioners to support what I think is the right thing to do.

Regarding the Sunshine Act, I agree with you also. We are indeed hampered by our own interpretation of the Sunshine Act, which I do not believe in my heart is what Congress intended, nor do I understand it's what the Supreme Court has recently, I believe it was last year, ruled in a case that was at least a little bit parallel to our problems.

The Sunshine Act certainly is a fine concept. It's law. We're abiding by it. But we have our own interpretation of what it means, which, in my judgment, is much too rigid, much too restrictive. And it does, indeed, make collegiality on this Commission almost impossible.

Collegiality on this Commission, Mr. Chairman, is a myth. Chairman Palladino has done a marvelous job and I would like to take this moment to pay my respects to the fine job he's done in a very difficult assignment. I have no illusions about it. I think it's one of the most difficult and important assignments in our country.

Chairman Palladino has done a magnificent job. He's hampered in great respects by the Sunshine Act. He has to talk to us individually on various things. He makes the rounds on many, many occasions.

We should be able to sit down and discuss some of these matters informally, predecisional. That's what collegiality is all about, as far as I'm concerned.

We don't have that kind of collegiality. We hardly know each other. It just simply isn't the way it's supposed to be, in my judgment.

However, I don't have time in my tour, frankly, as Chairman, to take that one on to any great extent. It's a political issue, I've been told. It's been talked about many times. I support a single administrator. That's the way it ought to be.

But I recognize that it probably won't happen. And I'm a realist. Standardization is not perfect, either, but I'm a realist. I think we can make great progress with the bill before Congress. I feel the same way about the Sunshine Act.

As Chairman, I will do everything I can to work with my colleagues, with this Commission. I don't need any more authority. I don't need any more changes. I don't need anything, as far as I'm concerned. I'm just going to do the best I can, abiding by the Sunshine Act whatever way we have to abide by it. If we can change it

to make it more reasonable, I will certainly try to do that. If we're unable to do that, I'm still going to do the best I can.

The CHAIRMAN. All right. Thank you. Jim?

Mr. ASSELSTINE. Mr. Chairman, on the Commission form and strengthening the powers of the chairman, I think I would agree with Commissioner Zech, that there is flexibility within our existing authority for the chairman to play a strong role in directing the staff to carry out the policy decisions that the Commission makes.

I think that the Commission functions best when it sets out the policy directions. Once those are set, then I think that it's a perfectly legitimate role for the chairman to make sure that the staff carries those out and does what it's supposed to do.

I think the other part that goes with that is accountability and responsibility, then he should be held accountable for the actions of the staff in carrying out the directions of the Commission.

I still think it's important to maintain information and access to information by all of the Commissioners so that we can have the information to carry out our job, which is setting the policy and taking votes on specific decisions that come before the Commission.

But I have no problem with the notion of the chairman playing a more direct and more active role in directing the functions of the staff to carry out the decisions that the Commission makes.

On the Sunshine Act, though, I think I do have a little different view.

If there's a lack of collegiality on the Commission, I think it is because individuals are reluctant to discuss and debate issues openly and in public. And I know that Commissioner Zech has expressed the view in previous Commission meetings that he just doesn't feel comfortable in doing that and others have as well.

While that's perfectly understandable, I still think that there's a benefit in the public being able to hear the give and take of debate and discussions on issues, just as the public has that opportunity to hear that kind of debate down here.

The Sunshine Act may impose some additional restrictions and a little bit of inefficiency on us, but I think that there's a benefit to be gained from that as well. When we're discussing budgetary matters, in order to keep the budget confidential, we have to do that in pairs. We've done that for the past few years ever since the courts said we couldn't meet in private on the budget.

I don't think that process has worked terribly ineffectively or even terribly inefficiently. But there are ways to deal with those aspects when it's needed.

We're also entitled to use the exemptions to the Sunshine Act to discuss matters where confidentiality is clearly a need. And we use that authority now to close about a third of our meetings. A third of the Commission meetings every year are closed, using the exemptions to the Act, where confidentiality is appropriate and necessary.

But I'm not persuaded that the Sunshine Act imposes such a barrier or burden to collegiality that it ought to be overturned. I still see a benefit in it.

Mr. McCAIN. Mr. Chairman, I'd be interested in the views of the other commissioners on that.

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The CHAIRMAN. I was going to do that. Mr. Bernthal?

Mr. BERNTHAL. Let me stick my foot in this thing one more time, Mr. Chairman. I've done it a time or two in the past.

First of all, I'd like to point out that there has been either an ill-informed or, worse yet, perhaps conscious campaign of misinformation that's been going on regarding the Commission's action in attempting to conform our regulations with the exact language, in fact, that the Supreme Court used and that Congress' arm on these matters, the administrative conference, used in characterizing the correct interpretation of the Sunshine Act.

The local newspaper, for example, has at least twice now, and once very recently again, characterized the Commission's action—I can't quote exactly—but it amounted to an "attempt to subvert the law."

Well, that just isn't the case. I wanted to start by making that very clear.

Our language is now in conformance with the language of almost every other agency in this city, the language of our regulations.

I'd like to just comment on the principle of what's gained and what's lost under the existing Sunshine Act. I agree with what the chairman has said. I agree with what you said, Chairman Udall.

What has been gained is very little. There is no evidence whatsoever, in my judgment, that the public and the press receive any more as a practical matter. We can talk all we like about how life ought to be and how forthcoming people ought to be when they're up on a platform in front of press and the public, but let's deal with human beings the way they are.

The fact is that the public has gained very, very little in new information.

What we've lost, though, has been something terribly valuable. We have lost the intent of Congress that this Commission function as five heads and that five heads are better than one. That's what's been lost. And very little has been gained.

There is, at best, an illusion that the inside story now somehow has been made available to the public. Well, the fact is there ain't any inside story any more, and there ought to be one, because this Commission ought to be consulting with each other. We ought to be conferring. We ought to be having these background discussions.

The Commission system itself is a safeguard. We've heard many times dissent, often very strong dissent and occasionally strident dissent, from members of the Commission when they disagree. That's the special safeguard that the Commission holds for the public.

And I've been a long-time supporter of that concept. I think that would be lost if we went to a single administrator, quite frankly. It would be interesting to see how much sun shines on the deliberations of a single administrator and how much the public will then hear about the "collegial decision" that has been made.

So, in my judgment, we are now being driven by events. And the most recent event was this small attempt on the part of this Commission to bring its regulations into conformance with what is permissible, and the intent of Congress, under the current Sunshine law, leave alone, let's not get into whether the law itself needs to be revisited.

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We all know what that brought down upon this Commission in what was a well-meaning attempt. And, frankly, I have been driven from being a strong supporter and I remain a strong supporter of the principle of a collegial commission. I have been driven to abandon that position. I believe that this system simply isn't going to work unless Congress decides to permit it to work.

And therefore, I've reluctantly come to the conclusion that we need to move toward a single administrator system, Mr. Chairman.

The CHAIRMAN. All right. Thank you very much.

Mr. Roberts?

Mr. ROBERTS. Yes. I have repeatedly said that I support the concept of a single administrator. I don't think it will happen for a lot of reasons.

Anybody who has ever looked at this entity has come to that conclusion. Post-TMI, the Kameny Commission—be that as it may, however fine an idea it is, I don't think the Congress will have to do that.

So, therefore, we have to work with what we have. I certainly personally support the concept of a strong chairman. I think the chairman should be the first among equals. However, it doesn't work that way and there are some reasons for it.

There was a period of time when there were only four commissioners. There have been as few as two commissioners. So this notion has evolved that we are all equal.

I think that's absolute nonsense. A majority of the Commission should speak for the Commission, period. And if that majority is three of five, so be it. If it's four of five, or if it's five of five, fine.

All this nonsense about these learned dissenting views and differing opinions, accusing those in the majority of flagrantly disregarding the law and our regulations and so forth, I find that sophomoric and tiresome.

On the Sunshine Act, I do think we overly interpret the requirements of the Sunshine Act. We certainly are going to obey the law. That's my intent to do so. I think we have overzealously interpreted the requirements of the Sunshine Act.

Thank you.

The CHAIRMAN. He leaves little doubt as to where he stands. [Laughter.]

Chairman Palladino, you were heard earlier on this subject. Do you have any later thoughts before we move on?

Mr. PALLADINO. Yes, sir, I'd like to add a few thoughts to this matter.

I think that with regard to the Sunshine Act, that there are places where we ought to have our discussions in public, and we do, not only because the law prescribes that we do, but I think, in large part, because the Commission would feel that that's what ought to be done.

However, there are a number of cases where we ought to get together. For example, preparing testimony.

Now if we can't get together and say, "what is it that we want to tell the Congress? What position do we feel is important in getting across? It becomes just what I can get by getting comments on proposed drafts, walking the halls trying to resolve issues. Another ex-

ample is what should be some of the answers to Qs and As that are not making decisions about particular power plants?"

We talk about draft legislation. There comes a point where all this comes out in the public, but we can't get together to talk about what it is that we would propose to the Congress.

We had an occasion to want to talk about a document control system and got some very good suggestions, particularly from Commissioner Bernthal. But, you know, until you get around and talk to people, we have differing views. Sure, it would be nice if we could get together on something like a document control system.

Five-year plan. I think a 5-year plan is a very good and almost essential thing that we undertake. Now what should go into a 5-year plan? we're not allowed to get together to talk, even about what ought to go into a 5-year plan.

Then if we get to saying, now, we want to concentrate on these issues, we can't even get to narrowing the issues.

We occasionally make foreign trips. We come back with good insights, new insights. You can walk around or you can write a trip report. But you can't get all these things into a trip report because you really would defeat the opportunity to get further information from some of our foreign colleagues. So you walk the halls, and that's fine. But it's not the same as getting in there and saying, you know, over there, they've got a bunker system such as this. Shouldn't we have one? And you get the exchange of ideas. But we can't meet on those kinds of things.

BRAIN-STORMING

We want to talk about standardized plans. We want to talk about advanced reactors. What are the future kinds of rules that we should have? We want to see where we're going. It's not clear what we can do in that regard.

Now, incidentally, I've written to our general counsel asking him to give us some opinions on some of these, and I put some in there that perhaps I already know, or at least feel, are contrary to the present law, but I think it's important to address some of these.

LETTER-DRAFTING

We have many times had a letter drafted. We're probably 90 percent of the way toward agreeing on the letter. But it takes 2 to 3 weeks until you can sort out all the little nuances that various people had.

I don't see why a letter-editing session is not something that could be allowed.

Well, these are some of the things that cause the Sunshine Act to interfere with collegiality, where you can exchange views.

We're not talking about making decisions on whether plant X should be shut down or go ahead or get enforcement or be started up or get a license. We're talking about the things that help facilitate the operation of the Commission.

So those are the kinds of things that I think need addressing. I believe that the Sunshine Act could be revised to permit some of those without impairing the intent of the Congress to do the Government's business in the public eye.

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The CHAIRMAN. Well, this has been very helpful and I'm sure there are strong views. We seem to have struck a nerve on that issue that deserves some more examination.

I have no other questions, but I may want to submit some in writing.

Before I go further, Mrs. Byron, a member of our committee, couldn't be here and she asks that a question be submitted for the record relating to emergency planning.

Would you be glad to respond to this, Mr. Chairman?

Mr. PALLADINO. We'll be pleased to respond.

The CHAIRMAN. Provide an answer for the record. And other members of the subcommittee who have questions will also submit those within the next 10 days.

Are there further questions?

Mr. Barton from Texas.

Mr. BARTON. Mr. Chairman, I just have one question. I apologize for being late. I had a space hearing that impacted the shuttle a little bit and I felt I had to go over there.

If this question has been addressed, then excuse me. I was looking at Attachment B of your budget submittal and understand that you're under quite a bit of constraint this year, as we all are. And just looking through the numbers, the number of full-time equivalents, it appears to me that there's a fairly high percentage of program direction and administration employees, around 20 percent.

Would the Chairman or one of the distinguished Commissioners care to comment on that? Is that fairly typical or do you feel that there may be some areas that could be reduced there to save some money for the other areas that actually impact on the safety of the public?

Anybody?

Mr. PALLADINO. Yes, I can comment on it in general terms and if I don't respond to your question, please persist and I'll try to respond.

We are, as I indicated earlier, a labor-intensive organization in that we have to do the reviews, we have to do the licensing, we have to do the inspection, we have to do followup analyses and the like.

But under things like program technical support offices come such things as the Advisory Committee on Reactor Safeguards, the Atomic Safety and Licensing Board Panel, the Atomic Safety and Licensing Appeal Panel, the Office of Investigations, Office of the Executive Legal Director, Office of International Programs, State programs, Office of Appraisal and Evaluation of Operations Data.

So sometimes these things look like they're unnecessary overhead, but they are very important to the operation.

Mr. BARTON. Mr. Chairman, are these offices mandated by law? I know that in the Department of Energy, there were several offices that had to exist because the Congress in our wisdom, declared that they should exist.

Are there some examples that you just listed—

Mr. PALLADINO. Well, some of these, I believe, are mandated by law, but most of them, I think, are, in the judgment of the Commission, valid organizations.

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For example, Office of Investigations is something that we created after I came aboard because we felt that it was so necessary. However, an Office of Inspector and Auditor, I'm not sure if it's mandated, but certainly, it is highly desirable.

The Office of Analysis and Evaluation of Operational Data is something that the Commission pushed forward on because without analyzing the data we get, we really don't take advantage of opportunities to improve our operations.

Now, then, there are other program direction and administration offices, and these include such things as the Commissioners themselves and their staff, the Office of the Secretary, the Office of Inspector and Auditor, the Office of General Counsel, Public Affairs, Congressional Affairs, the Office of the EDO—the Executive Director for Operations—Office of Resource Management.

So these are activities that the Commission has to maintain, at least we believe we have to maintain. There may be opportunities to improve the way we organize them and the Commission has taken some action in that direction. I think that we can see improvements.

Mr. BARTON. Well, Mr. Chairman——

Mr. PALLADINO. I do think, though, that it is incumbent upon us to give particular attention to this area of the budget.

Mr. BARTON. I don't know the budget nearly as well as you or your other Commissioners. I just know that here in the Congress, we are having to reduce our staffs on the committee and our staffs in our own congressional offices.

It just appeared to me that it seemed to be a fairly high percentage there in administration and program direction. It might be an area that you could pursue at the appropriate time.

Mr. ASSELSTINE. Mr. Barton, I would agree with that. We did have to reduce, or we will have to reduce, by 122 positions from what we have now to the beginning of fiscal year 1987, based upon what OMB has given us.

My personal preference would be to look harder at those kinds of support offices rather than major program offices——

Mr. BARTON. Right

Mr. ASSELSTINE [continuing]. That carry out the frontline safety responsibilities.

Mr. BARTON. That would be my preference, also.

Mr. ASSELSTINE. We did take a chunk out of those, but, unfortunately, I think the majority of the Commission felt that still, a fair amount of the burden should fall on those frontline safety offices.

I think we can still do more in the support offices. One thing we discussed earlier was our effort to consolidate the two legal offices that we have and achieve a substantial reduction in the number of attorney positions that we now have.

I think that's an area where we can save a fair amount. I suspect there are some others as well. I personally would like to shift back a few more people into the frontline safety offices and put a little bit more of the burden on the support functions.

Mr. BARTON. Be sure to give as much personnel as is necessary to investigate Commanche Peak down in Texas near my district so that we can get it on line. We would like to see that move ahead.

Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Before we conclude, let me poll the jury on one last matter which Mr. Barton brings up and touches upon.

The cuts for 1987 are going to be pretty tough but I think we can meet them both at the congressional staff level and in the agencies. I really worry about 1988 and 1989, where really huge additional cuts might be made. But we're going to consistently be faced with these priority decisions. It might be interesting and maybe the answers will have to be submitted for the record. But we used to go out on field trips to the coal mine country. All the coal operators would tell us how they were going to reclaim the land and put it back. I would always say: "Well, show me your best performance. Where is the best job being done?" And then I would ask the environmentalists, where is the worst?

I'm going to ask the Commissioners, just go down the line—if we have to make budget cuts, things aren't static, things change, as has been pointed out here this morning. We may have a big program this fiscal year, and it's almost completed, and a cut isn't going to hurt. But a new program just coming on the line requires not less money or a cut. It requires more money.

Where in this large budget that we're talking about this year and next year would you cut if you had to cut? Where is an area of inefficiency? Where is an area of too many resources within that budget? And where are the areas that need more attention?

If we're going to review the figures within the overall budget, where should we maybe allocate a little more money in these 2 or 3 years ahead?

It's a general question, a fairly broad one, but let me start over with Admiral Zech and we'll go this way. What's the best of the agency, and what's the worst, and where should the priorities be?

Mr. PALLADINO. Mr. Chairman, I'll start and I'll stick my neck out.

First of all, I do think that we have to give our primary attention to make sure that the plants that are operating are operating safely. That requires close inspection. That requires resident inspectors, or at least I believe so, and I think the Commission agrees with me on that. And it does require analytical capabilities to be able to evaluate lots of circumstances that develop almost day to day on different plants.

So I would maintain those activities, especially. And that would include the office of analysis of operating data because without the analysis of that operating data, we may not be able to perform.

The CHAIRMAN. Give me an area of lesser priority now, besides lawyers. [Laughter.]

Mr. PALLADINO. Lesser priorities include some things as integrated systematic assessment program, special teams to make periodic, special inspections.

I'm not talking about the regular, day-to-day inspections. And I think what has to go many times, unfortunately, is more of the research. And I hate to say that that's a place to cut because often it is the research that we rely on in our analysis or that strengthens our analytical hand that saves us.

My firm belief is that if the Gramm-Rudman-Hollings reductions for ensuing years, or even for 1987, reaches numbers such as 20 or

25 percent of our current budget, I think we're severely impairing the ability of the NRC to do the job as I think the Congress intended for it.

Mr. UDALL. Mr. Zech.

Mr. ZECH. I think—first of all, I'm not prepared to answer your question, Mr. Chairman, in any detail that would be satisfactory at this time.

I just think that the cuts that we've seen forecasted for 1987 of 20 to 25 percent, and then, again, further cuts in fiscal year 1988, if those do come about, it looks to me like we're not going to be able to anywhere near conduct business as usual. It's going to be a very, very clear problem that we have to address, stepping back, and almost restructuring perhaps the whole agency.

We simply must conduct our primary mission—protecting the public health and safety. All the other areas that we have that contribute to that, perhaps not quite so directly, have to be looked at. We even have to look at, in my view, the whole organization.

Can we afford—for example, we have five regional areas right now. Perhaps we can even combine some of them. I mean, we have to do the things that are very significant in order to make the reductions that might be proposed. So I think we've got to make a rather global look at our whole organization rather than piecemeal.

And so, I'm really prepared to do that now. But I do think that very significant actions on our part might be needed in order for us to carry out our mission. I think at this time I'm simply not prepared to say exactly where they're going to be.

The CHAIRMAN. This is an unfair question.

Mr. ZECH. But they're going to be significant if we're going to meet those budget reductions that might be proposed.

The CHAIRMAN. I just wanted to get some basic reactions.

Mr. Roberts.

Mr. PALLADINO. Mr. Chairman, could I just say that I'd like to be able to submit some additional comments on this subject for the record.

[EDITOR'S NOTE.—This information was provided to the subcommittee by letter dated April 10, 1986.]

The CHAIRMAN. I'd appreciate any form you and any and all of your colleagues. They would be very welcome.

Mr. Bernthal.

Mr. BERNTHAL. Tom, did you want to—

Mr. ROBERTS. Commissioner Zech pretty well expressed my sentiments.

Mr. BERNTHAL. Let me just make a brief comment or two.

The staff is trembling behind me, the ones that work on administration—

[Laughter.]

Because they're afraid I'm going to start talking about our antiquated data-handling facilities. I believe we can save millions of dollars there. But that's a small part of the picture.

I guess the thought I would suggest, as we are moving toward a period of operating plants, rather than plants under construction, is the need for the NRC and its functions to begin a transition to where this industry and this enterprise for energy generation ap-

proaches some semblance of normalcy, and parity, and treatment with other areas that are hazardous and deserve regulation as well.

Unless we see a significant resumption of construction programs in the early 1990's—and I think there's an excellent chance we may, but we should know that within the next 3 years or so—then I would wonder whether there is reason to continue the NRC.

Now I'm not talking about its functions. I'm talking about the NRC as an independent entity far beyond 1990.

The functions will still have to be carried out, but, needless to say, if you do attempt the kind of normalization of this particular regulatory function of one area of endeavor that is hazardous, along with several others, then one can also ask the question as to whether this should continue to be set aside with all of the special administrative costs that that entails.

Mr. BARTON. Where would you put it?

Mr. BERNTHAL. Well, I'm not sure I'm prepared to comment on that yet. We clearly have a function that relates to protection of public health, safety, and the environment.

Now I guess I'll leave that up to the Congress to ponder for now.

The CHAIRMAN. All right. Jim, you had addressed this earlier.

Mr. ASSELSTINE. Yes, Mr. Chairman. Let me just make a couple of brief points.

On Fred's last point, I think you have to have an independent regulatory agency. As long as you've got an industry to regulate, I think that's really necessary.

But I think you can break our program down into three blocks.

The first block is the basic program. That's the normal inspection program for the plants. That's also responding to problem situations, whether it's construction problem cases or whether it's operating problem cases. You have to do that. I think that has to be the first priority. We have to make sure we get the job done where we know about problems and also carry out the basic inspection programs so that we have some idea of what's going on at our licensees.

The second block—and I think these have to be in descending order of priority in terms of how you keep them—is programs aimed at improving the situation for the future. Being able to identify problem plants before we have serious operating events, some of those more forward-looking things.

I think they're a second priority beyond the base program, but they're a terribly essential priority if we're going to get away from this reacting to problems, and reacting to crisis on an annual basis, and get more normalcy, and stability for the industry, and improve overall performance.

And the third part are those items that are really aimed toward the future. And, unfortunately, those have to be a lower priority than I think the first two. And the research program, a lot of the research program falls into that area.

And, in essence, what we've been doing over the past several years is cutting back substantially on our research program and mortgaging the future. We aren't learning as much about the behavior and performance of these plants as they get older as we could have done. We're not looking as much at future reactor concepts as we could have done.

Those are important things. Someday down the road, they'll come back to haunt us. But the fact is they have to be a lower priority than the other items.

I think all of those things are important. That's why I've suggested that we look at some creative financing ways to try and keep an effective program going over these tough budget years.

The CHAIRMAN. All right. Well, this has been a very helpful hearing this morning. I think we'll be seeing more of each other.

Thank you very much.

Mr. PALLADINO. Thank you, Mr. Chairman.

The CHAIRMAN. The subcommittee is adjourned.

[Whereupon, at 11:35 a.m., the subcommittee was adjourned.]

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APPENDIX I

THURSDAY, FEBRUARY 28, 1985

ADDITIONAL MATERIAL SUBMITTED FOR THE HEARING RECORD
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PREPARED TESTIMONY

SUBMITTED BY

NUNZIO J. PALLADINO, CHAIRMAN

U. S. NUCLEAR REGULATORY COMMISSION

TO THE

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING THE

NUCLEAR REGULATORY COMMISSION'S

BUDGET REQUEST FOR FY 1986

FEBRUARY 28, 1985

(69)

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U.S. NUCLEAR REGULATORY COMMISSION
FY 1986 BUDGET STATEMENT

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, THE COMMISSION APPEARS BEFORE YOU TODAY TO DISCUSS NRC'S FY 1986 BUDGET REQUEST. WITH ME TODAY ARE MY FELLOW COMMISSIONERS, THE EXECUTIVE DIRECTOR FOR OPERATIONS AND THE DIRECTORS OF THE PRINCIPAL OFFICES OF THE COMMISSION.

OVERVIEW

I WILL BEGIN BY SAYING THAT THIS IS THE FIRST TIME THAT THE BUDGET REQUEST FOR NRC RESOURCES FOR THE NEXT FISCAL YEAR IS FOR LESS THAN THE AMOUNT APPROPRIATED FOR THE CURRENT FISCAL YEAR. AS YOU KNOW, WE ASKED OMB TO INCREASE OUR FY 1986 BUDGET. THE ADDITIONAL RESOURCES WERE FOR PROGRAMS THAT THE COMMISSION BELIEVES ARE IMPORTANT TO OUR REGULATORY MISSION. WHILE WE RECOGNIZE THERE ARE STRONG FISCAL PRESSURES CREATED BY

THE FEDERAL DEFICIT, WE MUST MAKE IT CLEAR THAT, WITHIN THE OMB APPROVED AMOUNT FOR FY 1986, THE NRC WILL BE ABLE TO CARRY OUT ONLY ITS MOST ESSENTIAL PROGRAMS.

THE TOTAL BUDGET REQUEST IS FOR \$429 MILLION. THIS IS APPROXIMATELY \$20 MILLION BELOW OUR FY 1985 PROGRAM. THIS REDUCED AMOUNT ANTICIPATES THAT THE ADMINISTRATION'S PROPOSED 5% PAY CUT WILL BE ENACTED BY CONGRESS; IF IT IS NOT, WE WILL BE SHORT \$8.6 MILLION.

WITHIN THE \$429 MILLION BUDGET REQUEST SUBMITTED TO CONGRESS, A NUMBER OF PROPOSED PROJECTS HAVE TO BE DELETED OR DEFERRED. THE REQUEST REPRESENTS A MINIMUM PROGRAM. IT WILL IMPAIR THE COMMISSION'S ABILITY TO TAKE A NUMBER OF FORWARD-LOOKING ACTIONS NECESSARY TO MOVE BEYOND TODAY'S PROBLEMS AND IMPROVE THE PROCESS FOR DEALING WITH TOMORROW'S ISSUES.

AMONG THE MOST IMPORTANT PROBLEMS WE WILL FACE IS KEEPING PACE WITH SOME ASPECTS OF DOE'S NATIONAL WASTE MANAGEMENT ACTIVITIES. IF THE PRESENT DOE SCHEDULE IS MAINTAINED, OUR BUDGET LIMITATIONS COULD DELAY DOE'S INITIATION OF SHAFT CONSTRUCTION AND AT-DEPTH SITE CHARACTERIZATION WORK BY AS MUCH AS SIX MONTHS.

BEFORE TURNING TO THE SPECIFICS OF THE BUDGET, WE WILL HIGHLIGHT SOME OF NRC'S MOST SIGNIFICANT ACCOMPLISHMENTS OVER THE PAST FISCAL YEAR AND THE FIRST SEVERAL MONTHS OF FY 1985 AS WELL AS SOME SPECIAL OBJECTIVES WE PLAN TO PURSUE.

PAST ACCOMPLISHMENTS

PROBLEMS FACED IN OPERATING PLANTS HAVE BEEN DEALT WITH EFFECTIVELY. NINE NEW LOW POWER REACTOR OPERATING LICENSES AND EIGHT OTHER FULL POWER AUTHORIZATIONS HAVE BEEN ISSUED DURING THE LAST SEVENTEEN MONTHS. WE HAVE APPROVED A POLICY ON THE

HANDLING OF LATE-FILED ALLEGATIONS WHICH WILL PRESCRIBE SCREENING CRITERIA SIMILAR TO THOSE USED IN THE DIABLO CANYON CASE. SEVERAL SIGNIFICANT RULES HAVE BEEN PUBLISHED, SUCH AS, THE WASTE CONFIDENCE RULE, THE RULE ON ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS), AND THE HYDROGEN CONTROL RULE. NUMEROUS CHANGES WERE MADE IN REGULATORY REQUIREMENTS AND SUPPORTING GUIDANCE BASED ON THE RESULTS OF OUR RESEARCH PROGRAM. WE HAVE KEPT PACE WITH DOE'S REPOSITORY DEVELOPMENT PROGRAM, AND HAVE MET OUR MILESTONES UNDER THE NUCLEAR WASTE POLICY ACT SO FAR.

WE HAVE BEEN WORKING HARD TO IMPROVE THE STABILITY AND PREDICTABILITY OF OUR REGULATORY PROCESS. FOR EXAMPLE, THE COMMISSION HAS NEARLY COMPLETED WORK ON A POLICY STATEMENT ON SEVERE ACCIDENTS. CONSISTENT WITH THAT STATEMENT AND WITH OUR GOAL TO ACHIEVE STABILITY IN THE LICENSING PROCESS, THE NRC WILL ALSO ENCOURAGE THE DEVELOPMENT OF STANDARDIZED PLANT DESIGNS BY INDUSTRY. THE COMMISSION IS ALSO PREPARING TO ISSUE

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A FINAL BACKFIT RULE WHICH WILL IMPROVE THE METHODS FOR ADMINISTERING THE IMPOSITION OF NEW REQUIREMENTS ON LICENSEES.

WE HAVE PROVIDED THE CONGRESS WITH REVISED LICENSING AND STANDARDIZATION LEGISLATION WHICH IS SIMILAR TO THAT SUBMITTED TWO YEARS AGO, BUT WHICH NOW FOCUSES ON ONLY THREE MAJOR PERFORMS: STANDARDIZATION, EARLY SITE APPROVAL, AND ONE-STEP LICENSING. WE HOPE THE CHANGES WILL GREATLY ENHANCE ITS CHANCES OF ENACTMENT THIS YEAR.

SPECIAL OBJECTIVES

NRC'S PRINCIPAL ATTENTION WILL CONTINUE TO BE DIRECTED AT MAINTAINING THE SAFETY OF NUCLEAR FACILITIES. NEVERTHELESS, THE COMMISSION HAS ESTABLISHED CERTAIN SPECIAL OBJECTIVES TO MAINTAIN THE LONG-TERM VIABILITY OF THE NATION'S NUCLEAR OPTION. WE WILL TRY TO ACHIEVE THESE OBJECTIVES WITHIN THE CONSTRAINTS IMPOSED BY THE BUDGET. THESE ARE TO:

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- IMPLEMENT A SAFETY GOAL WITH THE OBJECTIVE OF
DEFINING TO THE INDUSTRY AND THE PUBLIC THE
ACCEPTABLE LIMITS FOR NUCLEAR PLANT RISKS;

- CONTINUE THE REASSESSMENT OF RADIOACTIVE SOURCE TERMS
USED IN ANALYZING THE RELEASE AND TRANSPORT OF
RADIOACTIVITY DURING A NUCLEAR ACCIDENT, AND, IF
APPROPRIATE, IMPLEMENT THEM INTO THE REGULATORY
PROCESS;

- IMPLEMENT THE POLICY STATEMENT ON SEVERE ACCIDENTS;

- PREPARE CRITERIA FOR EARLY REVIEW OF ADVANCED REACTOR
CONCEPTS AND DESIGNS;

- SET FORTH A PROCEDURE FOR REVIEW AND APPROVAL OF
STANDARD PLANT DESIGNS AND PREAPPROVAL OF PLANT
SITES;

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- DETERMINE APPROPRIATE WAYS TO INCORPORATE INDUSTRY
SAFETY INITIATIVES IN NUCLEAR REGULATION.

NRC BUDGET

WE WOULD LIKE TO TURN NOW TO THE SUBJECT OF THE BUDGET REQUEST
FOR NRC. BEFORE HIGHLIGHTING OUR FOUR MAJOR PROGRAMS, WE WANT
TO ADDRESS THREE ASPECTS OF THE BUDGET WORTHY OF SPECIAL
EMPHASIS: RESOURCES FOR OUR OPERATING REACTOR PROGRAMS,
RESEARCH FUNDING, AND NRC ORGANIZATION.

ADEQUATE RESOURCES FOR OPERATING PLANTS

FIRST WE ARE CONCERNED THAT NRC BUDGET CUTS ARE BEING
CONSIDERED UNDER THE ASSUMPTION THAT, IN THE ABSENCE OF NEW
PLANT ORDERS, THE RESOURCES USED TO LICENSE PLANTS NOW IN THE
PIPELINE WILL NO LONGER BE NEEDED. THIS IS JUST NOT THE CASE.

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NRC RESOURCES ARE REQUIRED FOR A PLANT FROM THE TIME A LICENSE APPLICATION IS SUBMITTED UNTIL AFTER IT IS DECOMMISSIONED.

THERE TENDS TO BE A PERCEPTION THAT WE EXPEND MANY MORE RESOURCES TO LICENSE A PLANT THAN TO ASSURE ITS OPERATIONAL SAFETY ONCE LICENSED. THIS IS NOT CORRECT. ONCE A PLANT IS LICENSED TO OPERATE, LICENSING ACTIONS CONTINUE TO BE NEEDED TO CORRECT INADEQUACIES IN PLANT DESIGN AND OPERATION THAT ARE IDENTIFIED FROM OPERATING EXPERIENCE AND FROM THE RESOLUTION OF SAFETY ISSUES. SAFETY EVALUATIONS MUST BE PERFORMED TO ENSURE THAT THESE LICENSING ACTIONS ARE CONSISTENT WITH NRC REQUIREMENTS. IN ADDITION, UNANTICIPATED EVENTS MUST BE REVIEWED FOR SAFETY SIGNIFICANCE. AS A RESULT OF THE INCREASING NUMBER OF OPERATING REACTORS, MORE OPERATOR EXAMINATIONS MUST BE CONDUCTED.

ALSO, FOR NEW OPERATING PLANTS WE NEED RESOURCES TO CONTINUE TO CONDUCT RESIDENT, REGION-BASED AND PERFORMANCE APPRAISAL TEAM

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INSPECTIONS, TO ANALYZE OPERATIONAL DATA, TO SYSTEMATICALLY APPRAISE LICENSEE PERFORMANCE, TO ISSUE BULLETINS AND CRDEPS, TO PROCESS ENFORCEMENT ACTIONS, TO EVALUATE EMERGENCY PREPAREDNESS EXERCISES, AND TO PERFORM REACTOR SAFEGUARDS REVIEWS ON A CONTINUING BASIS.

WE CONSIDER IT ESSENTIAL THAT ALL THE FOREGOING OPERATIONAL ACTIVITIES CONTINUE AT THEIR PRESENT LEVEL OF EFFORT. IN OUR BUDGET REQUEST, WE HAVE ACCOMPLISHED THIS BY REALLOCATING RESOURCES BASED ON OUR PROJECTED LICENSING SCHEDULE, I.E. AT THE POINT WHERE PLANTS ARE PROJECTED TO BE LICENSED, THE ASSOCIATED RESOURCES ARE THEN SHIFTED TO MONITOR THE COMMENSURATE INCREASES IN NEW OPERATING FACILITIES. IF OUR BUDGET WERE TO BE REDUCED FURTHER, TO THE POINT WHERE WE WOULD HAVE NO OTHER CHOICE BUT TO CUT BACK SOME OF OUR OPERATIONAL ACTIVITIES THAT HAVE BEEN STRENGTHENED IN RECENT YEARS, SAFETY COULD BE ADVERSELY IMPACTED.

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IN ADDITION, I WOULD EMPHASIZE TO THE SUBCOMMITTEE THAT THE NRC HAS IMPORTANT REGULATORY FUNCTIONS IN OTHER AREAS AS WELL, SUCH AS, SAFEGUARDS, EXPORTS, TRANSPORTATION, MATERIALS LICENSING (THERE ARE APPROXIMATELY 9000 ACTIVE MATERIALS LICENSES), URANIUM RECOVERY, AND A WIDE SPECTRUM OF RADIOACTIVE WASTE MANAGEMENT ACTIVITIES. THESE MANDATORY ACTIVITIES MUST CONTINUE AND REQUIRE NRC RESOURCES APART FROM NRC'S LICENSING RESPONSIBILITIES FOR OPERATING PLANTS.

RESEARCH PROGRAM FUNDING LEVEL

OUR SECOND MAJOR CONCERN IS THE EXTENT TO WHICH WE HAVE HAD TO CUT BACK OUR RESEARCH PROGRAM OVER THE YEARS. IN FY 1986 RESEARCH FUNDING WILL BE DOWN MORE THAN \$85 MILLION FROM FY 1981 - ABOUT A 40% REDUCTION. YOU CAN SEE BY THE CHART AT APPENDIX A THAT IN TERMS OF CONSTANT DOLLARS OUR RESEARCH BUDGET WILL BE SLIGHTLY LOWER IN FY 1986 THAN IT WAS WHEN THE AGENCY WAS FORMED 10 YEARS AGO.

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WE HAVE HAD TO REDUCE RESEARCH FUNDS BECAUSE THE MAGNITUDE OF THE BUDGET CUTS WE HAVE TAKEN, COUPLED WITH THE REQUIREMENT TO ABSORB PAY RAISES AND OTHER INCREASED COSTS, HAS LEFT US ESSENTIALLY NO OTHER CHOICE.

BASICALLY, WE HAVE TWO TYPES OF PROGRAMMATIC FUNDS -- FUNDS USED TO LICENSE FACILITIES AND MONITOR THEIR CURRENT OPERATION AND RESEARCH FUNDS WHICH ARE USED PRIMARILY TO DEAL WITH ANTICIPATED FUTURE PROBLEMS. WE HAVE LITTLE OR NO FLEXIBILITY WITHIN THE NON-RESEARCH COMPONENT; THESE FUNDS SUPPORT OUR SAFETY, SAFEGUARDS AND ENVIRONMENTAL EVALUATIONS OF LICENSE APPLICATIONS, INSPECTIONS, THE RESOLUTION OF SAFETY ISSUES, THE REVIEW OF LICENSING ACTIONS, AND MANY OTHER NECESSARY ONGOING ACTIVITIES. THUS, TO STAY CURRENT WITH OUR DAY-TO-DAY REGULATORY RESPONSIBILITIES, RESEARCH HAS HAD TO ABSORB THE MAJOR PORTION OF OUR CUTBACKS.

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A STABLE, CONTINUING PROGRAM OF RESEARCH IS ESSENTIAL FOR THE COMMISSION TO CARRY OUT ITS RESPONSIBILITIES. OUR RESEARCH PROGRAM PROVIDES US WITH THE KIND OF SOUND TECHNICAL INFORMATION WE NEED TO DEAL EFFECTIVELY WITH EMERGING COMPLEX TECHNICAL ISSUES. WHEN INFORMATION DEVELOPED BY OUR RESEARCH PROGRAM IS LACKING, WE OFTEN HAVE TO REQUIRE FACTORS OF SAFETY TO COMPENSATE FOR OUR LACK OF KNOWLEDGE. IF, AS IS OFTEN THE CASE, SUCH FACTORS ARE OVERLY CONSERVATIVE, AN UNNECESSARY BURDEN MAY BE PLACED ON THE INDUSTRY AND THE PUBLIC.

ABSENT NEEDED SAFETY INFORMATION DEVELOPED BY OUR OWN RESEARCH PROGRAM, WE COULD BE FORCED INTO A VERY UNDESIRABLE REGULATORY POSTURE -- ONE THAT COULD REQUIRE THE NRC TO EITHER SHUT DOWN SOME OPERATING FACILITIES OR DELAY LICENSING OTHERS UNTIL THE NECESSARY TECHNICAL DATA HAVE BEEN OBTAINED TO RESOLVE IDENTIFIED SAFETY ISSUES. EITHER ALTERNATIVE WOULD BE MORE COSTLY TO THE PUBLIC THAN THE ADEQUATE FUNDING OF OUR RESEARCH PROGRAM.

THIS IS NOT A HYPOTHETICAL ARGUMENT. THE FOLLOWING SAFETY ISSUES ARE TWO GOOD EXAMPLES OF RECENT RESEARCH PROGRAM BENEFITS.

IN THE FIRST INSTANCE, THE AVAILABILITY OF NRC RESEARCH IN MATERIALS AND THERMAL HYDRAULICS COUPLED WITH RISK ANALYSIS METHODS FOR PRESSURIZED THERMAL SHOCK CONTRIBUTED TO A DECISION THAT AVOIDED THE UNNECESSARY SHUTDOWN OF SEVERAL REACTORS. THE SECOND INVOLVED CRACKS IN BOILING WATER REACTOR PIPES. AGAIN, AVAILABLE NRC RESEARCH RESULTS MADE IT POSSIBLE FOR US TO MAKE PROMPT TECHNICAL DECISIONS THAT PRECLUDED LONG PLANT SHUTDOWNS.

THE NRC IS REALLY THE ONLY ORGANIZATION IN THE UNITED STATES THAT HAS SUSTAINED THE TECHNICAL BASE NEEDED TO ASSURE THE SAFE OPERATION OF LIGHT WATER REACTORS.

NRC ORGANIZATION

THE THIRD AREA OF SPECIAL INTEREST IS WITH THE NRC ORGANIZATION. THE COMMISSION IS CONTINUING TO CONSIDER POSSIBLE READJUSTMENTS IN NRC'S ORGANIZATIONAL STRUCTURE AND THE USE OF STAFF IN AN EFFORT TO USE AGENCY RESOURCES MORE EFFECTIVELY AND EFFICIENTLY, AND POSSIBLY TO REDUCE FURTHER THE NUMBER OF PEOPLE REPORTING DIRECTLY TO THE COMMISSION. ANY ECONOMIES WE MIGHT ACHIEVE WILL BE APPLIED TO MEET OUR HIGHEST PRIORITY ACTIVITIES THAT CANNOT BE FUNDED TODAY.

ONE OF THE OFFICES THAT CURRENTLY REPORTS TO THE COMMISSION IS THE OFFICE OF INVESTIGATIONS (OI). WHETHER OR NOT THIS OFFICE SHOULD CONTINUE TO REPORT TO THE COMMISSION IS A MATTER STILL UNDER CONSIDERATION. UNTIL NOW, IT HAS REMAINED AT OR BELOW THE STAFFING LEVEL OF 38 THAT WAS ESTABLISHED BACK IN 1982. WE HAVE INCLUDED SIX MORE FTE FOR OI IN FY 1986.

BUDGET HIGHLIGHTS

WE REFER YOU NOW TO APPENDIX B WHICH IS A RESOURCE SUMMARY FOR OUR MAJOR BUDGET CATEGORIES.

RESOURCES FOR OUR NUCLEAR REACTOR REGULATION PROGRAM WILL BE ABOUT THE SAME IN FY 1986 AS THEY ARE IN FY 1985. WITHIN THE PROGRAM, HOWEVER, THERE WILL BE SOME SIGNIFICANT ADJUSTMENTS. WHILE RESOURCES DEVOTED TO REACTOR LICENSING WILL DECREASE AS MORE OPERATING LICENSES ARE ISSUED, RESOURCE REQUIREMENTS WILL INCREASE FOR SAFETY RELATED LICENSING ACTION REVIEWS AND PROJECT MANAGEMENT FUNCTIONS COMMENSURATE WITH THE INCREASING NUMBER OF OPERATING REACTORS. FOR EXAMPLE, MORE LICENSING ACTIONS ARE PLANNED FOR OPERATING PLANTS IN FY 1986 THAN IN FY 1985. WE WILL CONTINUE TO CONDUCT AN ACTIVE REACTOR OPERATOR LICENSE EXAMINATION PROGRAM, COMPLETE THE RESOLUTION OF MORE UNRESOLVED AND HIGH PRIORITY GENERIC SAFETY AND HUMAN FACTORS

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ISSUES, AND WORK ON INITIATIVES RELATED TO SEVERE ACCIDENTS AND SAFETY GOALS.

THE RESOURCES PROPOSED FOR OUR INSPECTION AND ENFORCEMENT PROGRAM IN FY 1986 INCLUDE AN INCREASE IN FTE WHILE FUNDING STAYS ESSENTIALLY LEVEL. WE ARE EXPANDING THE RESIDENT INSPECTOR PROGRAM TO INCLUDE A SECOND RESIDENT AT CONSTRUCTION SITES, AT REACTORS WHILE IN PRE-OPERATIONAL TESTING AND AT ABOUT ONE-HALF OF THE SINGLE UNIT OPERATING SITES. THIS ACTION WILL SUBSTANTIALLY INCREASE ON-SITE INSPECTION TIME. SOME OF THE QUALITY ASSURANCE INITIATIVES PRESENTED TO CONGRESS IN FY 1984 WILL BE DEVELOPED FOR APPLICATION TO OPERATING PLANTS AND TO THOSE UNDER CONSTRUCTION, BUT INITIATIVES RELATED ONLY TO FUTURE APPLICATIONS FOR CONSTRUCTING NUCLEAR PLANTS WILL NOT BE PURSUED BECAUSE OF RESOURCE LIMITATIONS. OTHER INSPECTION AND ENFORCEMENT PROGRAMS WILL BE RETAINED AT ESSENTIALLY THEIR FY 1985 LEVELS.

IN THE NUCLEAR MATERIALS SAFETY AND SAFEGUARDS PROGRAM, FUNDING WILL REMAIN ESSENTIALLY LEVEL IN FY 1986 WHILE FTE WILL INCREASE TO ACCOMPLISH NUMEROUS WASTE MANAGEMENT ACTIVITIES, FOREMOST AMONG THESE ARE EXTENSIVE PREAPPLICATION REVIEWS OF DOE SITE INVESTIGATIONS, ANALYSES OF DOE'S SITE CHARACTERIZATION PLANS FOR THREE POTENTIAL REPOSITORY SITES, AND RULEMAKING TO AMEND REGULATIONS TO CONFORM TO THE REQUIREMENTS OF THE NUCLEAR WASTE POLICY ACT. ADDITIONAL RESOURCES ALSO ARE REQUESTED TO IDENTIFY AND RESOLVE ISSUES ASSOCIATED WITH SPENT FUEL SHIPMENT AND STORAGE. OTHER EFFORTS IN FY 1986 INCLUDE COMPLETION OF THOUSANDS OF FUEL CYCLE AND NUCLEAR MATERIAL LICENSING CASES AND THE CONDUCT OF A LIMITED NUMBER OF OPERATING REACTOR SAFEGUARDS REGULATORY EFFECTIVENESS REVIEWS.

THE RESOURCES OF THE NUCLEAR REGULATORY RESEARCH PROGRAM WILL BE SIGNIFICANTLY REDUCED IN FY 1986. OUR COOPERATIVE RESEARCH PROGRAMS WITH THE U.S. NUCLEAR INDUSTRY AND FOREIGN PARTNERS

WILL BECOME INCREASINGLY IMPORTANT IN LIGHT OF CURRENT FISCAL CONSTRAINTS. NRC RESEARCH WILL FOCUS PRIMARILY ON THE FOLLOWING:

- AGING: TO CHARACTERIZE THE DEGRADATION OF BOTH EQUIPMENT AND STRUCTURES IMPORTANT TO SAFE OPERATION OF REACTORS.
- SOURCE TERMS: TO USE ENGINEERED DATA AS THE TECHNICAL BASES FOR REGULATORY ACTIONS REGARDING EMERGENCY PLANNING AND SITING GUIDELINES.
- SEVERE ACCIDENTS: TO CONTINUE RESEARCH IN SUCH AREAS AS SEVERE ACCIDENT SEQUENCE ANALYSIS, DAMAGED FUEL, AND FISSION PRODUCT RELEASE IN ORDER TO PROVIDE A SOUND TECHNICAL BASIS FOR DECISIONS NEEDED TO IMPLEMENT NRC'S SEVERE ACCIDENT POLICY.

- WASTE MANAGEMENT: TO CONDUCT RESEARCH ON DEVELOPMENT OF TOOLS FOR EVALUATING DOE'S PROPOSED NUCLEAR WASTE REPOSITORY.

- THERMAL/HYDRAULICS: TO ASSESS COMPUTER CODES USED BY LICENSING STAFF TO EVALUATE THE SAFETY RESPONSE OF THE VARIOUS U.S. DESIGNED PLANTS TO A WIDE RANGE OF TRANSIENTS AND ACCIDENTS. AND

- SEISMIC ANALYSIS: TO DETERMINE THE PREDICTABILITY OF LEVELS OF SEISMIC EVENTS AT REACTOR SITES, TO PREDICT THE RESPONSE OF THE SITE AND THE PLANT TO THESE EVENTS, AND TO DETERMINE THE POSSIBILITY OF COMPONENT FAILURE AND EFFECT OF SUCH FAILURE ON PLANT SAFETY.

TIGHT FISCAL CONSTRAINTS MAKE IT IMPERATIVE THAT DECISIVE ACTION BE TAKEN TO IMPROVE NRC'S EFFICIENCY AND EFFECTIVENESS. IN THIS REGARD, I WANT TO NOW ADDRESS THE CONTINUING PROBLEM OF

NRC BUILDING CONSOLIDATION AND MY PERSONAL VIEWS ON THE SUBJECT
OF THE NRC CHAIRMAN'S AUTHORITY.

BUILDING CONSOLIDATION

AS YOU KNOW, WE HAVE FOR TEN YEARS BEEN HINDERED BY THE
EXPENSIVE AND TIME CONSUMING PROCESS OF TRAVELING BACK AND
FORTH BETWEEN OUR VARIOUS LOCATIONS. WE CONTINUE TO WORK WITH
GSA TO FIND A WAY THAT WOULD PERMIT US TO CONSOLIDATE.
HOWEVER, CONSOLIDATION HAS NOT YET MATERIALIZED. THUS, WE
STRONGLY RECOMMEND THAT THE SUBCOMMITTEE MANDATE CONSOLIDATION
NOT LATER THAN THE END OF FY 1986 IN A SINGLE LOCATION IN THE
DISTRICT OF COLUMBIA OR IN BETHESDA, MARYLAND. THE MANDATE
SHOULD INCLUDE WHATEVER FUNDING PROVISIONS ARE NECESSARY TO
ACHIEVE FULL CONSOLIDATION BY THAT TIME.

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CHAIRMAN'S AUTHORITY

BEFORE CLOSING, I WOULD LIKE TO COMMENT BRIEFLY ON THE SUBJECT OF THE NRC CHAIRMAN'S AUTHORITY. MY REMARKS ARE PERSONAL IN NATURE AND DO NOT NECESSARILY REPRESENT THE COLLECTIVE VIEWS OF THE COMMISSION.

ON JANUARY 23, 1985 I REPORTED TO THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT ON WHAT I THINK SHOULD BE DONE TO IMPROVE THE CURRENT COMMISSION STRUCTURE. THAT REPORT ALSO ADDRESSED LIMITATIONS ON THE CONDUCT OF COMMISSION BUSINESS AS A RESULT OF THE SUNSHINE ACT AND EX PARTE CONSIDERATIONS. WITH YOUR PERMISSION, I WOULD LIKE TO HAVE MY REPORT MADE A PART OF THE RECORD. I ESPECIALLY URGE YOU TO CAREFULLY CONSIDER THE MERITS OF THE PROPOSED SINGLE ADMINISTRATOR CONCEPT. I FURTHER URGE YOU TO SUPPORT LEGISLATION ALONG THIS LINE. IN MY OPINION, IT WOULD BE ONE OF

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THE MOST IMPORTANT ACTIONS THE CONGRESS COULD TAKE TO MAKE THE AGENCY FUNCTION MORE EFFECTIVELY AND EFFICIENTLY.

1987

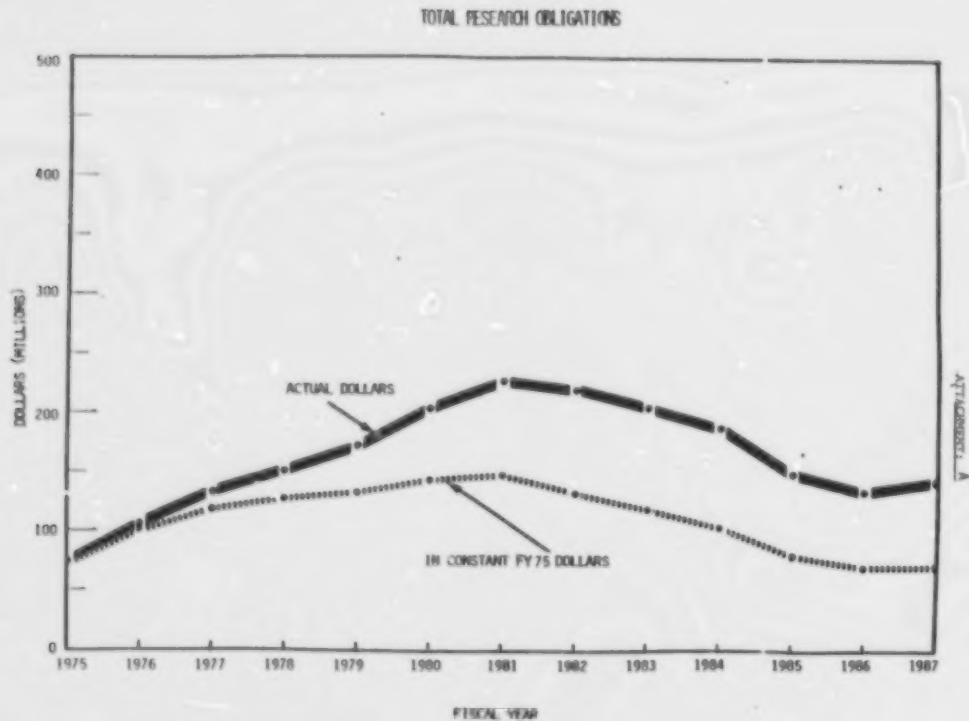
IN ACCORDANCE WITH THE BIENNIAL AUTHORIZATION PROCEDURES, THE NRC ALSO IS PROVIDING FY 1987 PLANNING ESTIMATES. THESE PLANNING ESTIMATES WOULD INCREASE AGENCY FUNDING TO \$460 MILLION AND HOLD STAFFING TO THE FISCAL YEAR 1986 LEVEL. OVERALL FUNDS FOR EACH OF OUR MAJOR PROGRAMS WOULD INCREASE MODERATELY TO MEET EXPANDING PROGRAMMATIC REQUIREMENTS DURING THAT YEAR. AS OUR DETAILED BUDGET REQUEST INDICATES, THIS AMOUNT IS NOT SUPPORTED BY OMB. WE WILL NEED TO RESOLVE THIS MATTER IN THE NEAR FUTURE.

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CONCLUDING REMARKS

THE DETAILS OF OUR BUDGET REQUEST ARE CONTAINED IN OUR BUDGET SUBMISSION, WHICH HAS ALREADY BEEN PROVIDED TO THE SUBCOMMITTEE. IN CLOSING, LET US REEMPHASIZE THAT THE BUDGET REQUEST SUBMITTED TO CONGRESS REPRESENTS A MINIMUM PROGRAM IN THE VIEW OF THE COMMISSION. WE URGE YOUR STRONG SUPPORT FOR THE FULL AMOUNT OF OUR REQUEST.

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ATTACHMENT: B

BUDGET RESOURCE SUMMARY^{1/}

<u>PROGRAMS</u>	<u>FY1985 EST.</u>		<u>FY1986</u>		<u>FY1987</u>	
	<u>FTE</u>	<u>\$</u>	<u>FTE</u>	<u>\$</u>	<u>FTE</u>	<u>\$</u>
NUCLEAR REACTOR REGULATION	718	91.2	718	88.9	706	95.5
INSPECTION AND ENFORCEMENT	1096	93.3	1142	92.9	1158	101.3
NUCLEAR MAT'L SAFETY & SFGDS	350	40.3	370	40.7	370	44.9
NUCLEAR REGULATORY RESEARCH	230	150.1	208	136.0	208	145.8
PROGRAM TECHNICAL SUPPORT	365	31.3	352	29.3	348	30.0
PROGRAM DIRECTION & ADMIN	<u>732</u>	<u>43.4</u>	<u>701</u>	<u>41.2</u>	<u>701</u>	<u>42.5</u>
	3491	449.6	3491	420.0	3491	460.0

^{1/} DOLLARS ARE EXPRESSED IN MILLIONS.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 23, 1985

The Honorable Tom Bevill, Chairman
Subcommittee on Energy and Water
Development
Committee on Appropriations
United States House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

This letter is in response to your request that I reexamine my authorities under Reorganization Plan No. 1 of 1980 and provide you potential improvements to the NRC organization structure. I have been Chairman of the Nuclear Regulatory Commission for some three and one-half years -- longer than any previous Chairman. Based on my experiences as Chairman, this letter also includes my assessment of the problems under the Reorganization Plan and my recommendations for solving them.

I. Study Group Report to Me

To assist me, I appointed a study group with William J. Dircks, NRC Executive Director for Operations (EDO) as its Chairman. The complete membership of the study group is presented in Attachment A. The report of the study group is enclosed as Attachment B.

The study group addressed three broad questions: (1) Does Reorganization Plan No. 1 of 1980 as presently written permit the NRC Chairman to effectively exercise authority as head-of-the-agency? (2) What additional authority is provided to the NRC Chairman under the reorganization plan which has not been used and which could improve the effective exercise of head-of-the-agency authority? and (3) Are there modifications to the reorganization plan which would result in a more efficient and effective exercise of this authority by the NRC Chairman?

With regard to the first two questions, the study group drew the following conclusions:

"...the Reorganization Plan as presently written does not permit the Chairman to exercise authority much differently than was the case before the Plan was adopted."

"...given the history of the Commission to date and

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the legal constraints imposed on the Chairman by the Reorganization Plan, the Chairman is exercising the authority that has been provided and there is little more practical authority which could be productively used."

With regard to the third question, the study group examined improvements in NRC management of the type recommended by the Grace and Kemeny Commissions.

Concerning the Grace Commission's recommendations, the study group stated, among other things:

"To strengthen the Reorganization Plan legislatively as recommended by the Grace Commission probably would require the removal of the provision allowing Commissioners to bring any matter before the collegial body on a majority vote. Whether any change in the way the Commission functions would result as a consequence is debatable."

Concerning the recommendations of the Kemeny Commission, the study group stated:

"...it is clear that the Chairman is still hampered by the same constraints that the Kemeny Commission thought should be rectified....Consequently, to the extent that the purpose of the Chairman's reexamination was to determine which, if any, of these particular recommendations could be more fully implemented, it is apparent that there is little more that can be done within the context of the existing Reorganization Plan."

II. My Statement of Problems with the Present Commission Structure

I believe that most of the problems with the present structure stem from the provisions of the Reorganization Plan No. 1 of 1980, the Sunshine Act, and ex parte considerations.

A. The Reorganization Plan

The Reorganization Plan No. 1 of 1980 gives the Commission, as a collegial body, three basic functions: (1) policy formulation; (2) rulemaking; and (3) orders and adjudications. The Plan also defines Commission appointment and removal functions. Although the Plan transfers all other functions of the Commission to the Chairman, the fact that the Plan states that the Commission can vote on "whether any matter, action, question or area of inquiry" pertains to one of its three basic functions effectively nullifies much of the Chairman's authority.

I will now discuss some of the problems under the Plan, both as seen by the study group and as experienced by me since becoming Chairman in 1981.

1. Problems Resulting From Policy Formulation And Independence Practiced By Individual Commissioners

As indicated in the attached Report, the Study Group suggests that individual Commissioners now define their policy formulation role broadly -- in part, because adjudications (under present arrangements) and rulemaking do not occupy them fully. In this regard, the Study Group Report states:

"Several of those interviewed suggested that the question of what is policy had been broadly defined by commissioners since they generally had a distaste for performance of their adjudicatory function.... It was noted that rulemaking activities for commissioners do not require a substantial portion of time. Therefore if rulemaking and adjudication do not keep commissioners fully occupied, the only remaining activity (of the primary functions) is in the policy arena. ...Beyond the three primary functions there is a rich menu of operational activities to which individual Commissioners have been attracted and in which they intervene at will, further impairing the Chairman's, as well as the EDO's locus of authority, responsibility and accountability."

Given a Commission structure, I do not view the interest of Commissioners in broad policy questions as all bad. However, it must be done in a collegially disciplined manner.

Since, under the present structure, a majority vote by the Commission can force any matter to be brought before the Commission as a policy matter, the Chairman must be sensitive to the views of individual Commissioners that might lead to overruling of the Chairman's action or delaying action on a proposal from the Chairman. For example:

- Commissioners have differing opinions on how program planning should be done and the regulatory philosophy on which such planning should be based. While debate on program planning has some merit, closure sometimes can be difficult and can lead to delays and to confused signals to the staff.

- Some Commissioners do not feel they can vote for a budget proposal developed by the Chairman and EDO unless they or members of their personal staffs sit in on the background deliberations between the Chairman and the EDO and his staff.
- As a result of Commissioner comments and interactions, complications and delays arise in making decisions and preparing directives to the staff which result from Commission actions. Differences usually have to be resolved by time-consuming individual contacts to avoid problems presented by the Sunshine Act as discussed below.
- Likewise, responses to letters from the Congress and others outside the agency must wait for and include, above the Chairman's signature, the additional remarks or dissenting views of any Commissioner who wishes to include such remarks or a rebuttal. Sometimes the remarks are longer than the basic letter.

Other problems that arise under the present structure result from the independence practiced by individual Commissioners with regard to their own activities. Among these are included the following:

- Scheduling of official travel or personal leave, sometimes without due consideration of the Commission's agenda.
- Perceived freedom to task the operating staff with duties without going through the Chairman or the EDO. If the Chairman questions the priority or resources to be devoted to the task, individual Commissioners have raised the matter as a policy issue or as an issue of not being kept fully informed.
- Individual Commissioners sometimes decide to write their own letters to persons outside the agency, without regard for the collegial process. These letters can cause confusion, and Commission letters signed by the Chairman then must be prepared and approved collegially to correct the confusion.
- Individual Commissioners also present their own prepared testimony in Congressional hearings, usually without circulating it to the Chairman or others beforehand. In contrast, the Chairman's testimony is prepared in advance and represents the collegial view, sometimes resulting in a watered-down version of what the Chairman might otherwise say.

2. End Result

The end result of Commissioners' ability to declare any issue a matter of policy and to act with complete independence is to diminish the Chairman's authority. The Chairman retains the responsibility for actions of the agency, and must answer to Congress and the public when questions are asked. As a rule it is the Chairman, not the individual Commissioners, who is held accountable for agency actions. Yet the Chairman does not have the ability to exercise the controls normally found in the hands of the Chief Executive of a body.

The net effect is a paradox: Commissioners are most interested in day-to-day management of the agency, the thing that single administrators traditionally do best; and Commissioners appear least inclined toward adjudicatory functions, the role that Commissions traditionally are created to perform.

B. The Sunshine Act

Many of the problems in reaching timely closure on some of the foregoing actions (e.g., correspondence, Staff Requirements Memoranda and budget decisions) come from the fact that, under the Sunshine Act, the Commission cannot meet as a body to resolve differences except in public sessions. However, since resolution of differences is a give-and-take process, holding such sessions in public has a chilling effect, particularly when budgetary strategy is involved. When the background for the discussion is not well understood by the public, such sessions can lead to possible erroneous public perceptions.

C. Ex Parte Considerations

During a hearing before your Subcommittee in 1984, all the NRC Commissioners expressed dissatisfaction with current ex parte limitations. Extensive review and discussion of various options have occurred since that time.

I am dissatisfied with our present ex parte rule which is more restrictive than the law requires. The staff is a technical resource which should be available to Commissioners, within given legal constraints. Therefore, I support relaxation of our present ex parte rule under an option which provides for a "separated staff". Under this option, those persons designated beforehand in the rule as

investigators and litigators would be barred from contacts (other than on the record) with the Commission, while others would be permitted to advise the Commission freely, even on matters at issue in contested cases.

The majority of the Commission did not support this approach, although they did agree that we should amend our ex parte rule to conform with the Administrative Procedure Act. What this will mean is yet to be determined.

III. Improvements Under The Present Structure

Although the study group concluded that the Chairman is currently exercising all the authority that has been provided, continuing efforts have been taken or currently are still underway to improve the effectiveness of the agency. For example:

- ° Overall objectives for the Commission were issued when I became Chairman in 1981. These objectives formed the basis for the policy and planning guidance documents issued for 1982 and later years. The policy and planning guidance document for 1984 is included as Attachment C.
- ° My proposals have been submitted to the Commission outlining the regulatory philosophy on which program planning is to be based along with the proposed policy and planning guidance document for 1985.
- ° Steps have been taken to revise Commission procedures for handling correspondence and other action documents with less delay. Also, I will raise again the question of better coordination of Commissioner travel.
- ° Efforts to get GSA to consolidate NRC in one geographic location are being and will continue to be pursued vigorously. Efficiencies in NRC operations are greatly impeded by the fact that the NRC headquarters staff is spread out in eleven different buildings throughout the Washington, D.C. metropolitan area. Both the Kemeny Commission and the Grace Commission strongly urged geographic consolidation of NRC's Washington-based activities. Nevertheless, despite continuing efforts to consolidate the agency's headquarters, offices remain widely separated.
- ° While I am aware of the Subcommittee's desire to see reduction in the number of persons reporting directly to the Commission, I do not believe that much can be done in this regard because of the ex parte problem which leads to the need for staff on whom the Commission can draw for advice. One exception might be the Office of

Investigation (OI); the Commission now is reconsidering its past decisions that OI should report directly to it.

- ° Another action that may deserve attention after geographic consolidation of the agency is achieved is combining of our legal offices. This would increase the number of people reporting directly to the Commission if the pattern used in other agencies is followed. I believe it also would diminish the EDO's and Chairman's control over the agency's legal apparatus.
- ° From time to time, consideration has been given to broader use of the lead Commissioner concept (i.e., assigning each Commissioner a specific area of our program to follow). However, I believe that, if widely used, this concept would fragment rather than centralize the major functions of the NRC as pointed out in the Study Group Report.

IV. My Recommendations for Legislative Changes

This section is divided into two parts. The first part is based on the premise that only a major structural organization change at the top can solve the problems. The second part is based on the premise that major structural change of the NRC may not be accomplished by the Congress and therefore less sweeping adjustments will be all that can be expected.

A. Major Structural Changes

I have addressed four possible approaches that the Subcommittee may wish to consider. They are listed in my order of preference, with most preferred coming first.

1. Single Administrator

Many of the problems identified in Part II of this letter, and several addressed in Part III as well, would be resolved if the law were changed to establish a single administrator form of regulatory management. The study group reported, however, that all of the individuals interviewed "agreed that since the single administrator approach was not legislatively adopted by Congress following the strong recommendations to do so from the Kemeny Commission following TMI, there was no reason to believe Congress would be more inclined to adopt such an organization now even if it could be argued that there were additional compelling circumstances (such as the failure of the Reorganization Plan to achieve the intended result) which might support a change."

However, I believe so strongly that the single administrator form of management should be established for

the NRC, that I urge development and adoption of legislation along this line. The single administrator could report either to the Congress or to the President. While I have a slight preference for having the Administrator report to the Executive Branch, either reporting channel would have merit. In either case, the single administrator should be appointed by the President with the advice and consent of the Senate.

The single administrator would likely profit from the advice of a general advisory commission; thus I would recommend such a body as part of my proposal. It could be modeled after the NRC's present Advisory Committee on Reactor Safeguards, but I believe its membership and areas of expertise should be expanded to cover more aspects of NRC operations. Between 15 and 20 part-time members with both technical and administrative expertise would be desirable.

If you want me to submit possible legislation on this approach, I can do so.

2. Single Administrator With A Commission to Handle Adjudications Only

The one activity that is best suited to a commission or panel is the matter of adjudication and issuing related orders. Thus I could envision a Commission constituted in a fashion similar to our present Appeal Board Panel which would do the work of that panel and in effect replace it. As with the present structure of having the Commission be the level of final appeal, I would have the single administrator serve as the level of final appeal. Thus the single administrator would not participate in the Adjudication Commission, but would function in an adjudicatory role on appeal from one of the parties.

I would suggest that the Adjudication Commission consist of five members; both the single administrator and the Adjudication Commission would be appointed by the President with the advice and consent of the Senate.

3. Make Adjudication and Rulemaking the Province of the Commission

Under this option an approach similar to that recommended by the Grace Commission would result. Specifically, Reorganization Plan No. 1 would be modified such that it would leave adjudication and rulemaking as the major functions of the Commission when acting as a collegial

body. Individual Commissioners, other than the Chairman, would not be in a policy-making role apart from their adjudicatory and rulemaking functions.

4. Three-person Commission

Last year, before a former Commissioner left the NRC, he suggested that consideration be given to a three-person Commission. While this approach would reduce the extent of interaction needed among Commissioners, it would not resolve many of the basic problems set forth previously.

This approach would, however, present a new problem: that is the question of how to satisfy the Sunshine Act. If the quorum in a 3-person Commission is two, then Commissioners could not consult each other on a one-on-one basis; this would lead to insurmountable problems. If the quorum is three, then Commission decision meetings could not be held when any Commissioner were sick, on leave or on travel status. In fact, a single Commissioner could then prevent votes or meetings simply by not participating. I do not recommend this approach unless legislation permits private discussions between 2 of the 3 Commissioners in spite of Sunshine Act requirements.

B. Other Adjustments

Under the premise that the major structural changes identified above may not be politically acceptable, several other organization or administrative suggestions for legislation are presented that might at least provide some improvements, although not marked ones.

1. Give Chairman Greater Appointment and Removal Authority

Under this option the Reorganization Plan would be changed to make the Chairman the sole appointing and removing authority for all senior NRC positions, regardless of whether they report to the full Commission or to the Chairman or the EDO.

2. Provisions to Permit Closed Commission Meetings for Special Purposes

If organization approaches are not adopted to solve some of the problems brought about by the Sunshine Act prohibitions on closed Commission meetings, I would propose that the Congress consider more limited legislative changes that would at least allow the present Commission to function more efficiently. Such legislation would permit closed meetings of the collegial Commission

to discuss such items as correspondence, management, budget, policy and planning and programming, etc. These meetings would be similar to the Executive Sessions that most multi-headed bodies are permitted to have to discuss items in a closed give-and-take environment.

3. Provisions to Solve Ex Parte Problems

Since the Commission appears unable to develop on its own a workable method to ease the ex parte problems, the Congress may wish to legislate provisions that would permit the NRC to make better use of its technical talent in directly advising the Commissioners on specific cases. More specifically, the Congress may wish to legislate a trial program for a "separated staff."

4. Legislative Support For Consolidation

Since consolidation is essential to efficient and effective functioning of the NRC, I strongly recommend that the Subcommittee mandate consolidation not later than FY 1986 in a single location in the District of Columbia or in Bethesda, Maryland. The mandate should include whatever funding provisions are necessary to achieve full consolidation of the NRC by that time.

V. The Light Under the Bushel

Concentrating on problems associated with the Commission form of management vis-a-vis other forms of management for the NRC must not divert attention from the fact that we are dealing with only part of the NRC organization, albeit an important part. Nevertheless, it must be recognized that the bulk of the work in all aspects of NRC's mission is done by the staff.

The staff deals with many complex issues, including day-to-day surveillance of reactor and materials licenses; evaluating new license applications or proposals from existing licensees; handling export licenses; developing rules, regulations, and guidelines for all its activities; and carrying out much needed research. All this work requires time for staff deliberation, development of approaches, resolution of differing opinions, and preparation of proposals either for implementation or for Commission action.

We are indeed fortunate to have a highly talented and dedicated staff, and we must work to keep it that way. Thus, criticism of the Commission management structure should not be interpreted as criticism of the overall quality of the staff's work.

It should also be noted that, despite the problems identified in this report, the Commission as well as the staff is doing a

good job in many areas and is pursuing programs that will lead to improvements in safety, in regulation, and in the overall operation of the NRC.

This is the light under the bushel.

Just as concentrating on the number of times Babe Ruth struck out or on the number of players he left on base can mislead one into believing that he was a poor baseball player, so can one be misled into believing that NRC is not doing a good job if one looks only at its problems. When one looks instead at Babe Ruth's home run record and the number of runs he batted in, one draws a different conclusion about his value as a baseball player. I believe this also is the case with the NRC.

Close

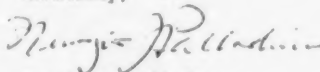
In closing, Mr. Chairman, I want to assure you that I would be pleased to discuss any of my ideas set forth above, or any other thoughts that you may have.

There is one final point that would be relevant to our discussions but which I have not dealt with in the body of this letter. That point concerns the interactions between NRC and the Congress.

Congressional oversight is extensive and varied, with five key subcommittees currently monitoring our activities closely, and with several others looking over our shoulders. Different signals from these different subcommittees contribute, in my view, to some of the management problems at NRC. I would appreciate whatever attention Congress can give to this issue.

For the record, a near-final draft of this letter was shown to the other Commissioners before I sent it to you. Nevertheless, this letter constitutes my own thinking and it does not necessarily represent the views of any other Commissioner. In fact some may disagree with it quite strongly.

Sincerely,



Nunzio J. Palladino

Attachments:

- A. Membership List
- B. Study Group Report
- C. 1984 Policy and Planning Guidance

cc: Rep. John T. Myers

Attachment C:

Membership of Study Group

Chairman: William J. Dircks
Executive Director for Operations
U.S. Nuclear Regulatory Commission

Members: John C. Hoyle
Assistant Secretary
U.S. Nuclear Regulatory Commission

William J. Olmstead
Director and Chief Counsel
Regulations Division
Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission

Consultant to Mr. Dircks: John Gray
International Energy Associates, Ltd.
Washington, D. C.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ATTACHMENT D:

January 11, 1985

MEMORANDUM FOR: Chairman Palladino ✓
FROM: William J. Dircks
Executive Director for Operations
SUBJECT: REPORT ON REEXAMINATION OF CHAIRMAN'S AUTHORITY

In a memorandum to me dated June 28, 1984, you asked me to chair a study group to help with your reexamination of authority under Reorganization Plan No. 1 of 1980. One of the assignments you gave the group was to interact with past chairmen and sitting commissioners to obtain their views on the matters you were to consider. The study group has completed the work you requested and has prepared a report which contains the results of the group's work. While the report does not contain your views nor reflect any conclusions you may wish to make, it does examine the areas you were directed to review by the House Committee on Appropriations in its report accompanying the FY 1985 Energy and Water Development Appropriations Bill.

A handwritten signature in dark ink, appearing to read "W. J. Dircks".

William J. Dircks
Executive Director for Operations

Enclosure: Study Group Report

cc: J. Gray
W. Olmstead
J. Moyle

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REPORT ON REEXAMINATION OF THE CHAIRMAN'S AUTHORITY
UNDER REORGANIZATION PLAN NO. 1 OF 1980
PURSUANT TO REQUEST OF HOUSE COMMITTEE ON APPROPRIATIONS

The COMMITTEE ON APPROPRIATIONS OF THE UNITED STATES HOUSE OF REPRESENTATIVES URGED THE CHAIRMAN OF THE NUCLEAR REGULATORY COMMISSION TO REEXAMINE HIS AUTHORITIES PURSUANT TO REORGANIZATION PLAN NO. 1 OF 1980 AND TO REPORT TO THE COMMITTEE POTENTIAL IMPROVEMENTS TO THE NRC ORGANIZATION STRUCTURE. [H.R. REP. NO. 96-755, 98TH CONG., 2D SESS. 146 (1984).] THE COMMITTEE'S REPORT STATED THAT "THE COMMITTEE IS NOT CONVINCED THAT ALL THAT CAN BE DONE HAS BEEN DONE, TO STRENGTHEN THE ROLE OF THE CHAIRMAN AS RECOMMENDED BY THE KEMENY AND GRACE COMMISSIONS." THE REPORT NOTED THAT NRC COMMISSIONERS HAD GENERALLY AGREED DURING TESTIMONY BEFORE THE COMMITTEE THAT THE MANAGEMENT STRUCTURE OF THE NRC SHOULD BE REVISED. IMPROVEMENTS IN NRC MANAGEMENT ARE NEEDED, ACCORDING TO THE COMMITTEE, TO AVOID IMPAIRING THE REGULATORY PROCESS FOR NUCLEAR POWER.

TO COMPLY WITH THE COMMITTEE'S REQUEST, THE CHAIRMAN CONVENED A STUDY GROUP TO ASSIST HIM IN REEXAMINING THE CHAIRMAN'S AUTHORITIES UNDER THE REORGANIZATION PLAN. THE CHAIRMAN REQUESTED THE GROUP TO HELP HIM PREPARE A REPORT WHICH WOULD FOCUS ON ORGANIZATIONAL IMPROVEMENTS WHICH WOULD "... BETTER CARRY OUT THE INTENT OF THE REORGANIZATION PLAN AS IT

PERTAINS TO [THE CHAIRMAN'S] AUTHORITIES." THE GROUP WAS INSTRUCTED TO INTERVIEW FORMER CHAIRMEN OF THE NRC AND ALL CURRENT SITTING COMMISSIONERS. TO STRUCTURE THE STUDY THE GROUP WAS ASKED TO ADDRESS THREE BASIC QUESTIONS: 1) DOES REORGANIZATION PLAN NO. 1 OF 1980 AS PRESENTLY WRITTEN PERMIT THE CHAIRMAN TO EFFECTIVELY EXERCISE AUTHORITY AS HEAD-OF-THE-AGENCY? 2) WHAT ADDITIONAL AUTHORITY IS PROVIDED TO THE CHAIRMAN UNDER THE REORGANIZATION PLAN WHICH HAS NOT BEEN USED AND WHICH COULD IMPROVE THE EFFECTIVE EXERCISE OF HEAD-OF-THE-AGENCY AUTHORITY? AND 3) ARE THERE MODIFICATIONS TO THE REORGANIZATION PLAN WHICH WOULD RESULT IN A MORE EFFICIENT AND EFFECTIVE EXERCISE OF THIS AUTHORITY BY THE CHAIRMAN?

INTERVIEWS WERE CONDUCTED WITH MARCUS POWDEN, JOSEPH HENDRIE, AND JOHN AHEARNE ALL OF WHOM HAD PREVIOUSLY SERVED AS CHAIRMAN OF THE NUCLEAR REGULATORY COMMISSION. COMMISSIONERS INTERVIEWED WERE THOMAS M. ROBERTS, JAMES K. ASSELSTINE,

FREDERICK M. BERNTHAL, AND LANDO ZECH. 1/ EACH INTERVIEW FOLLOWED THE SAME FORMAT AND GENERALLY LASTED FOR AT LEAST ONE HOUR. THE THREE BROAD QUESTIONS WERE DISCUSSED WITH THE FORMER CHAIRMEN AND SITTING COMMISSIONERS WITH REFERENCE TO TWO PARTICULAR ROLES OF THE CHAIRMAN UNDER THE REORGANIZATION PLAN: HIS ROLE OVER FUNCTIONS VESTED IN THE COMMISSION AS A BODY AND HIS ROLE AS THE PRINCIPAL EXECUTIVE OFFICER OF THE COMMISSION.

CONCERNING THE QUESTION WHETHER THE CHAIRMAN CAN EFFECTIVELY EXERCISE AUTHORITY UNDER THE REORGANIZATION PLAN AS CURRENTLY WRITTEN, MOST OF THOSE INTERVIEWED BELIEVED HE COULD NOT. IT WAS REPEATEDLY EMPHASIZED THAT THE KENNEY COMMISSION REPORT HAD STRONGLY RECOMMENDED A SINGLE ADMINISTRATOR FORM OF AGENCY ADMINISTRATION. MOST OF THOSE INTERVIEWED BELIEVE THE SINGLE ADMINISTRATOR APPROACH WOULD BE THE MOST EFFECTIVE WAY TO ADDRESS THE MANAGEMENT CONCERNS THAT HAVE BEEN EXPRESSED CONCERNING REGULATION OF NUCLEAR SAFETY. THIS IDEA HAD NOT

1/ SEVERAL ATTEMPTS TO MEET WITH FORMER CHAIRMAN WILLIAM ANDERS WERE MADE BUT DUE TO MUTUAL SCHEDULING DIFFICULTIES IT WAS NOT POSSIBLE TO ARRANGE A TIME FOR A FORMAL INTERVIEW. IN TELEPHONE CONVERSATIONS WITH THE EXECUTIVE DIRECTOR FOR OPERATIONS, THE FORMER CHAIRMAN INDICATED THAT HE DID NOT THINK HIS VIEWS WOULD BE AS HELPFUL AS THOSE OF MORE RECENT CHAIRMEN SINCE MANY OF THE IDENTIFIED PROBLEMS AROSE AFTER HIS TENURE ON THE COMMISSION. DUE TO LIMITATIONS OF TIME, NO INTERVIEWS WERE ATTEMPTED WITH FORMER COMMISSIONERS WHO HAD NOT ALSO SERVED AS CHAIRMAN. SINCE THE COMMITTEE'S QUESTIONS WERE SPECIFICALLY ADDRESSED TO NPC PRACTICE UNDER ITS REORGANIZATION PLAN, COMMISSIONERS AT OTHER AGENCIES WERE NOT CONTACTED. HOWEVER, THE ORGANIZATIONAL PLANS UNDER WHICH OTHER COMMISSIONS OPERATE WERE REFERRED TO WHERE APPROPRIATE.

FOUND SUPPORT IN THE CONGRESS AND CONSEQUENTLY PRESIDENT CARTER IMPLEMENTED REORGANIZATION PLAN NO. 1 OF 1980.

THE PRESIDENT'S PRIVATE SECTOR SURVEY ON COST CONTROL (GRACE COMMISSION) RECENTLY RECOMMENDED THAT MANAGEMENT CONTROL AT THE NRC SHOULD BE STRENGTHENED BY PROVIDING STRONGER MANAGERIAL AUTHORITY FOR THE CHAIRMAN. SPECIFIC RECOMMENDATIONS INCLUDED THE SUGGESTION THAT THE CHAIRMAN BE GIVEN THE SAME APPOINTMENT AND REMOVAL AUTHORITY OVER SENIOR STAFF AS THAT POSSESSED BY THE CHAIRMAN OF THE FEDERAL ENERGY REGULATORY COMMISSION IN THE DEPARTMENT OF ENERGY. THE GRACE COMMISSION RECOMMENDS LEGISLATION TO ACCOMPLISH THAT OBJECTIVE.

A REVIEW OF 42 USC 7171 WHICH PROVIDES FOR THE AUTHORITY OF THE FERC CHAIRMAN AND A COMPARISON WITH REORGANIZATION PLAN NO. 1 OF 1980 REVEALS LITTLE DIFFERENCE OF SIGNIFICANCE BETWEEN THE IDENTIFIED AUTHORITY OF THE CHAIRMEN OF THE RESPECTIVE AGENCIES. HOWEVER, THE REORGANIZATION PLAN AS ORIGINALLY SUBMITTED BY THE PRESIDENT WAS MODIFIED AFTER STRONG OBJECTIONS WERE TENDERED BY SITTING COMMISSIONERS. THE MODIFICATION PROVIDED THAT A MAJORITY VOTE BY THE COMMISSION COULD FORCE ANY MATTER TO BE BROUGHT BEFORE THE COMMISSION. THOSE INTERVIEWED REPEATEDLY COMMENTED THAT THE THREAT OF SUCH A VOTE EFFECTIVELY PREVENTED THE CHAIRMAN FROM EXERCISING HIS AUTHORITY WHENEVER IT WAS APPARENT THAT EVEN A SINGLE COMMISSIONER HAD STRONG VIEWS TO

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THE CONTRARY. MOST FELT THIS THREAT WAS EFFECTIVE SINCE OTHER COMMISSIONERS WOULD ACT TO PROTECT THE COMMISSION'S COLLEGIAL AUTHORITY EVEN IF THEY HAPPENED TO DISAGREE WITH A PARTICULAR COMMISSIONER ON A PARTICULAR ISSUE. ONE FORMER CHAIRMAN COMMENTED THAT THE REORGANIZATION PLAN MIGHT HAVE ALLOWED A STRONG CHAIRMAN ADMINISTRATOR TO FUNCTION EFFECTIVELY HAD IT BEEN IN PLACE AT THE TIME THE COMMISSION WAS ORIGINALLY FORMED. HOWEVER, HE BELIEVED THAT SINCE THE COMMISSION HAD GROWN ACCUSTOMED TO EXERCISING AUTHORITY COLLEGIALLY, THE REORGANIZATION PLAN HAD LITTLE PRACTICAL EFFECT ON HOW COMMISSION BUSINESS WAS CONDUCTED. ONE SITTING COMMISSIONER BELIEVED THE CHAIRMAN PROBABLY HAD PREROGATIVES WHICH WERE NOT EXERCISED BUT THAT IT WAS UNLIKELY THAT SUCH PREROGATIVES WOULD BE EXERCISED UNLESS THE CHAIRMAN HAD A STRONG DISPOSITION AND PERSONALITY. ONE OF THE FORMER CHAIRMEN COMMENTED THAT A "M.F. ADFOIT" MIGHT BE ABLE TO FUNCTION EFFECTIVELY BUT THAT SUCH PEOPLE COME ALONG BY ACCIDENT AND ARE NOT LIKELY TO ROUTINELY APPEAR IN THE SYSTEM AS DESIGNED.

A NUMBER OF THOSE INTERVIEWED SUGGESTED THAT THE EFFECTIVE EXERCISE OF AUTHORITY BY THE CHAIRMAN WAS FRUSTRATED MOST OFTEN BECAUSE THE COMMISSION FORM OF ADMINISTRATION EFFECTIVELY SEPARATED ACCOUNTABILITY AND RESPONSIBILITY. IT WAS NOTED THAT A DISSENTING VIEW NEVER WAS CALLED TO ACCOUNT SINCE IT HAD NO IMMEDIATE OPERATIONAL EFFECT. ON THE OTHER HAND, VOTING WITH

THE MAJORITY WAS SUFFICIENTLY ANONIMOUS SO THAT A COMMISSIONER NEED NOT FEEL SINGULARLY RESPONSIBLE FOR THE DECISION. THIS VIEW SEES INDIVIDUAL COMMISSIONERS AS LACKING INDIVIDUAL ACCOUNTABILITY SINCE THE AGENCY FUNCTIONS COLLEGIALLY. IT WAS EMPHASIZED THAT A PERSON WHO IS BOTH RESPONSIBLE AND ACCOUNTABLE FUNCTIONS QUITE DIFFERENTLY FROM ONE WHO IS NOT ACCOUNTABLE.

REORGANIZATION PLAN NO. 1 OF 1980 ASSIGNS THREE PRIMARY FUNCTIONS TO THE COMMISSION: 1) POLICY FORMULATION; 2) RULEMAKING WHICH PERTAINS TO POLICY FORMULATION ORDERS OR ADJUDICATIONS; AND 3) ORDERS AND ADJUDICATIONS. SEVERAL OF THOSE INTERVIEWED SUGGESTED THAT THE QUESTION OF WHAT IS POLICY HAD BEEN BROADLY DEFINED BY COMMISSIONERS SINCE THEY GENERALLY HAD A DISTASTE FOR PERFORMANCE OF THEIR ADJUDICATORY FUNCTION. IT WAS OBSERVED THAT THE PRACTICAL REASON FOR RETAINING THE ATOMIC SAFETY AND LICENSING APPEAL BOARD WAS SO THAT THE COMMISSION WOULD NOT HAVE TO REVIEW VOLUMINOUS ADJUDICATORY RECORDS AND RENDER DECISIONS IN EACH CASE. IN FACT, NO CURRENT MEMBER OF THE COMMISSION READS THE COMPLETE RECORD COMPILED IN LICENSING PROCEEDINGS. SEVERAL OF THOSE INTERVIEWED QUESTIONED WHETHER IT WOULD BE POSSIBLE FOR THE PRESIDENT TO RECRUIT QUALIFIED TECHNICAL PEOPLE TO SERVE ON THE COMMISSION IF THEY UNDERSTOOD THEIR PRIMARY RESPONSIBILITY WAS TO BE THE REVIEW OF ADJUDICATORY RECORDS. IT WAS NOTED THAT RULEMAKING ACTIVITIES FOR COMMISSIONERS DO NOT REQUIRE A SUBSTANTIAL PORTION OF TIME.

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THEREFORE IF RULEMAKING AND ADJUDICATION DO NOT KEEP COMMISSIONERS FULLY OCCUPIED, THE ONLY REMAINING ACTIVITY (OF THE PRIMARY FUNCTIONS) IS IN THE POLICY ARENA. CONSEQUENTLY, A NUMBER OF PEOPLE BELIEVED IT WAS INEVITABLE THAT COMMISSIONERS WOULD TAKE A VERY BROAD VIEW OF WHAT MATTERS CONSTITUTED AGENCY POLICY AND WERE THEREFORE MATTERS FOR COMMISSION ATTENTION RATHER THAN MATTERS APPROPRIATE SOLELY FOR THE CHAIRMAN. BEYOND THE THREE PRIMARY FUNCTIONS THERE IS A RICH MENU OF OPERATIONAL ACTIVITIES TO WHICH INDIVIDUAL COMMISSIONERS HAVE BEEN ATTRACTED AND IN WHICH THEY INTERFERE AT WILL, FURTHER IMPAIRING THE CHAIRMAN'S, AS WELL AS THE EDC'S LOCUS OF AUTHORITY, RESPONSIBILITY AND ACCOUNTABILITY.

THOSE INTERVIEWED HAD FEW SUGGESTIONS CONCERNING WHAT ADDITIONAL AUTHORITY EXISTS UNDER THE REORGANIZATION PLAN WHICH HAS NOT BEEN USED OR WHICH COULD IMPROVE THE EFFECTIVE USE OF HEAD-OF-THE-AGENCY AUTHORITY BY THE CHAIRMAN. SOME SUGGESTED THAT THE CHAIRMAN DID NOT NEED TO SEEK COMMISSION CONCURRENCE IN AGENCY CORRESPONDENCE. HOWEVER, ONE FORMER CHAIRMAN NOTED THAT THE COMMISSION HAD VOTED TO INCLUDE INDIVIDUAL COMMISSION VIEWS IN OUTGOING CORRESPONDENCE PREPARED FOR THE CHAIRMAN'S SIGNATURE. WHILE THE CHAIRMAN CLEARLY HAS AUTHORITY UNDER THE REORGANIZATION PLAN TO ACT AS THE AGENCY SPOKESMAN, REFUSING TO INCLUDE INDIVIDUAL COMMISSIONER VIEWS WOULD PROBABLY NOT EFFECTIVELY IMPROVE THE EXERCISE OF HIS AUTHORITY. IT WAS

EMPHASIZED THAT INDIVIDUAL COMMISSIONERS COULD ALWAYS SEND THEIR OWN LETTERS AND THAT THE ISSUE AROSE MOST FREQUENTLY WHEN RESPONSES TO CONGRESSIONAL COMMITTEES AND MEMBERS WERE INVOLVED. IT WAS BELIEVED BY MOST OF THOSE INTERVIEWED THAT IF THE CHAIRMAN WERE PERCEIVED TO BE PRECLUDING INDIVIDUAL COMMISSIONER VIEWS IN SUCH CIRCUMSTANCES, HE WOULD BE SEVERELY CRITICIZED BY ONE OR MORE CONGRESSIONAL COMMITTEES AND THE INDIVIDUAL VIEWS WOULD BE CALLED FOR IN ANY EVENT. ONE FORMER CHAIRMAN INDICATED THAT SOME MEMBERS OF CONGRESS ARE MORE INTERESTED IN DISSENTING VIEWS THAN IN THE COLLEGIAL VIEWS OF THE COMMISSION AND CONSEQUENTLY DO NOT TREAT THE CHAIRMAN AS THE OFFICIAL SPOKESMAN IN ANY EVENT.

ANOTHER AREA DISCUSSED WHERE ADDITIONAL AUTHORITY MIGHT BE EXERCISED WAS IN SUPERVISION AND CONTROL OF STAFF RESOURCES. THE CHAIRMAN MIGHT REQUIRE ALL REQUESTS OF THE STAFF BY INDIVIDUAL COMMISSIONERS TO COME THROUGH THE CHAIRMAN'S OFFICE. NONE OF THE FORMER CHAIRMEN INTERVIEWED BELIEVED THAT THIS WAS PRACTICAL SINCE COMMISSIONERS HAVE HISTORICALLY INTERPRETED THE PHRASE "ACCESS TO INFORMATION" AS MEANING "PRECISELY, FULLY AND WHATEVER AN INDIVIDUAL COMMISSIONER DEEMED NECESSARY" TO FULFILL THE FUNCTIONS OF THE COMMISSIONER'S OFFICE. AS ONE FORMER CHAIRMAN OBSERVED, IT WOULD BE VERY DIFFICULT TO CHALLENGE THE POSITION OF AN INDIVIDUAL COMMISSIONER REQUESTING STAFF

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ASSISTANCE NEEDED TO EFFECTIVELY DISCHARGE THE COMMISSIONER'S RESPONSIBILITIES.

AMONG THE COMMISSIONERS INTERVIEWED THERE WERE DIFFERENT REASONS EXPRESSED BUT ALL AGREED THAT PRACTICALLY THERE WAS LITTLE TO BE GAINED BY THE CHAIRMAN'S ATTEMPTING TO EXERCISE GREATER AUTHORITY OVER STAFF RESOURCES. ONE COMMISSIONER INDICATED THAT THE EX PARTE AND SEPARATION OF FUNCTIONS LAWS MADE THIS OPTION A HOBSON'S CHOICE FOR THE CHAIRMAN. IF HE DID ATTEMPT TO BE BETTER INFORMED ABOUT STAFF ACTIVITIES SO THAT HE COULD EFFECTIVELY CONTROL STAFF RESOURCES, THEN HE WOULD HAVE GREATER RISK OF HAVING TO EXCLUDE HIMSELF FROM COMMISSION DELIBERATIONS. THIS WOULD, OF COURSE, DEFEAT THE PURPOSE OF SEEKING GREATER CONTROL IN THE FIRST PLACE SINCE THE COMMISSION WOULD BE DEPRIVED OF THE INFORMATION THAT THE CHAIRMAN HAD DEVELOPED AND THE RISK OF TIE VOTES WOULD BE EVER PRESENT.

AN APPROACH DISCUSSED WITH THOSE INTERVIEWED WAS THE "LEAD" COMMISSIONER CONCEPT. ALTHOUGH NEVER FORMALLY USED BY THE NUCLEAR REGULATORY COMMISSION, ITS PREDECESSOR AGENCY, THE ATOMIC ENERGY COMMISSION, HAD SUCCESSFULLY DESIGNATED INDIVIDUAL COMMISSIONERS AS RESPONSIBLE FOR PARTICULAR PROGRAM AREAS. THE REORGANIZATION PLAN DOES NOT SPECIFICALLY PROVIDE FOR SUCH AN APPROACH BUT THE CHAIRMAN COULD SHARE HIS AUTHORITY FOR OPERATIONS WITH OTHER COMMISSIONERS. ALL THOSE INTERVIEWED

INITIALLY NOTED THAT THE "LEAD" COMMISSIONER CONCEPT WORKED ONLY WHERE A MAJORITY OF THE COMMISSION WAS WILLING TO DEFER TO THE JUDGMENT AND EXPERTISE OF AN INDIVIDUAL COMMISSIONER. THE FORMER CHAIRMEN WERE SKEPTICAL ABOUT THE CONCEPT NOTING THAT THERE WAS NO REASON TO BELIEVE A "LEAD" COMMISSIONER WOULD BE ANY MORE SUCCESSFUL THAN THE CHAIRMAN SINCE THREE COMMISSIONERS WOULD ALWAYS BE NECESSARY IN ORDER TO EXERCISE EFFECTIVE AUTHORITY. ONE FORMER CHAIRMAN NOTED THE CONCEPT MIGHT HAVE UTILITY IF INDIVIDUAL COMMISSIONERS BECAME MORE AGGRESSIVE ABOUT DEFENDING THE PREROGATIVES OF THE EDO. HE THOUGHT THAT IF THE COMMISSIONERS DEFERRED TO ONE ANOTHER'S AREAS AND THAT EACH IN TURN RELIED UPON THE EDO TO IMPLEMENT POLICY IN THE AREA THAT THEN THE COMMISSIONERS WOULD HAVE A SENSE OF RESPONSIBILITY REQUIRING THEM TO SUPPORT THE EDO AND THE STAFF WHEN AN ISSUE CAME BEFORE THE COMMISSION.

ONLY TWO OF THE SITTING COMMISSIONERS LIKED THE LEAD COMMISSIONER CONCEPT. ONE THOUGHT IT WAS DESIRABLE TO TAKE ADVANTAGE OF INDIVIDUAL COMMISSIONER'S EXPERTISE. ANOTHER THOUGHT THE CONCEPT WAS WORKABLE IF THE INDIVIDUAL COMMISSIONER WAS AWARE OF THE VIEWS OF THE OTHER COMMISSIONERS AND WAS WILLING TO TAKE THEM INTO ACCOUNT WHEN DIRECTING THE WORK OF THE STAFF IN A PARTICULAR AREA. ALL THOSE INTERVIEWED BELIEVED THE CONCEPT WAS ONLY WORKABLE WHERE INDIVIDUAL COMMISSIONERS WERE WILLING TO TRUST ONE ANOTHER TO IMPLEMENT THE WILL OF THE

COLLEGIAL BODY. ONE COMMISSIONER NOTED THAT THE "LEAD" COMMISSIONER CONCEPT'S BIGGEST ADVANTAGE MIGHT BE THAT OF GIVING EACH COMMISSIONER A STAKE IN BUILDING A CONSENSUS ON THE COMMISSION, A STAKE WHICH ONLY THE CHAIRMAN HAS UNDER CURRENT COMMISSION OPERATING PROCEDURES. A FORMER CHAIRMAN NOTED THAT THE MAJOR ARGUMENT AGAINST ITS ADOPTION WAS THAT THE CONCEPT WOULD SERVE TO FURTHER FRAGMENT -- FATHER THAN CENTRALIZE -- THE MANAGERIAL FUNCTIONS OF THE NRC.

CONSERVATIONS ABOUT MODIFICATIONS TO THE REORGANIZATION PLAN WHICH WOULD RESULT IN A MORE EFFICIENT AND EFFECTIVE EXERCISE OF AUTHORITY BY THE CHAIRMAN WERE SIMILAR. ALL AGREED THAT IF CHANGES WERE DEEMED NECESSARY THAT THE MOST LOGICAL CHANGE WOULD BE TO ESTABLISH A SINGLE ADMINISTRATOR FORM OF REGULATORY MANAGEMENT. HOWEVER, ALL ALSO AGREED THAT SINCE THE SINGLE ADMINISTRATOR APPROACH WAS NOT LEGISLATIVELY ADOPTED BY CONGRESS FOLLOWING THE STRONG RECOMMENDATIONS TO DO SO FROM THE KEMENY COMMISSION FOLLOWING TMI, THERE WAS NO REASON TO BELIEVE CONGRESS WOULD BE MORE INCLINED TO ADOPT SUCH AN ORGANIZATION NOW EVEN IF IT COULD BE ARGUED THAT THERE WERE ADDITIONAL COMPELLING CIRCUMSTANCES (SUCH AS THE FAILURE OF THE REORGANIZATION PLAN TO ACHIEVE THE INTENDED RESULT) WHICH MIGHT SUPPORT A CHANGE.

TWO COMMISSIONERS NOTED THAT THE PUBLIC WANTS AND PROBABLY WOULD DEMAND A COMMISSION FORM OF REGULATION. THESE COMMISSIONERS FELT THE REORGANIZATION PLAN AS CURRENTLY STRUCTURED PROVIDES A FAIR BALANCE BETWEEN THE NEED FOR SINGLE LEADERSHIP TO MANAGE PERSONNEL AND RESOURCES AND THE NEED FOR COLLEGIALLY AND DIVERSITY OF VIEWPOINT ON HIGHLY CONTROVERSIAL MATTERS. TWO COMMISSIONERS FELT THAT AN ADMINISTRATIVE AND MANAGEMENT ROLE UNDER THE REORGANIZATION PLAN IS DIFFICULT AND NEARLY IMPOSSIBLE FOR A COMMISSION FORM OF ORGANIZATION WHICH IS SO PROCEDURALLY AND LEGALLY CONSTRAINED. THESE COMMISSIONERS POINTED TO THE SUNSHINE ACT, THE EX PARTE/SEPARATION OF FUNCTIONS STATUTES, AND THE FREEDOM OF INFORMATION ACT AS COMPLICATING THE FREE EXCHANGE OF IDEAS AMONG COMMISSIONERS AND INHIBITING GOOD COLLEGIAL DECISION-MAKING. THEY NOTED THAT A SINGLE ADMINISTRATOR HAS FEW OF THESE PROBLEMS AND IN ADDITION DOES NOT HAVE TO CONSULT FOUR OTHER PEOPLE BEFORE ACTING. THEY CONCLUDED THAT IF THE PURPOSE OF A COMMISSION FORM OF ADMINISTRATION IS TO BUILD PUBLIC CONFIDENCE IN THE DECISION-MAKING PROCESS, THE PRACTICAL EFFECT IS JUST THE OPPOSITE.

THE STUDY GROUP CONCLUDED THAT THE REORGANIZATION PLAN AS PRESENTLY WRITTEN DOES NOT PERMIT THE CHAIRMAN TO EXERCISE AUTHORITY MUCH DIFFERENTLY THAN WAS THE CASE BEFORE THE PLAN WAS ADOPTED. COMMISSIONERS CAREFULLY PRESERVE THE PREROGATIVE TO

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ACT COLLEGIALLY AND THE CHAIRMAN MUST ACT DEFERENTIALLY TO SUCH PREROGATIVE IF HE IS TO SUCCESSFULLY BUILD CONSENSUS ON THE MOST IMPORTANT COMMISSION MATTERS. THIS NECESSARILY REQUIRES THAT THE CHAIRMAN REFRAIN FROM ACTIONS AS THE HEAD-OF-THE-AGENCY WHICH WOULD IMPAIR THE COMMISSION'S COLLEGIALLY.

THE STUDY GROUP EXAMINED THE RESULTS OF THE INTERVIEWS BY EVALUATING THE CHAIRMAN'S TWO KEY ROLES UNDER THE REORGANIZATION PLAN. FIRST, THE CHAIRMAN CONVENES THE COMMISSION AND PARTICIPATES IN THE FUNCTIONS THAT ARE VESTED SOLELY IN THE COMMISSION. IN THIS AREA THE GROUP PLACED PRIMARY EMPHASIS ON (1) THE COMMISSION'S AUTHORITY TO VOTE THAT A GIVEN MATTER PRESENTED A POLICY ISSUE RESERVED FOR THE COMMISSION; (2) THE "LEAD" COMMISSIONER CONCEPT; (3) PERSONNEL APPOINTMENTS AND REMOVALS; AND (4) THE REQUEST AND RECEIPT OF REPORTS FROM THE STAFF BY COMMISSIONERS. SECOND, THE CHAIRMAN HAS EXCLUSIVE AUTHORITY OVER SPECIFIC FUNCTIONS UNDER THE REORGANIZATION PLAN. IN THIS LATTER AREA THE GROUP REVIEWED THE CHAIRMAN'S FUNCTIONS AS (1) OFFICIAL AGENCY SPOKESMAN; (2) PRINCIPAL EXECUTIVE OFFICER FOR SUPERVISION OF THE STAFF AND DEVELOPMENT OF POLICY AND PLANNING GUIDANCE; AND (3) PRINCIPAL PREPARER OF AGENCY ORGANIZATION AND BUDGET PROPOSALS.

THE CHAIRMAN'S PARTICIPATION IN FUNCTIONS VESTED SOLELY IN THE COMMISSION IS NECESSARY AND APPROPRIATE. IF THE CHAIRMAN

FOCUSED ON ADMINISTRATIVE MATTERS AND BECAME INVOLVED DEEPLY IN THE DAY TO DAY ADMINISTRATION OF THE STAFF, IT WOULD BE NECESSARY FOR THE CHAIRMAN TO EXCUSE HIMSELF FROM MANY COMMISSION DELIBERATIONS AND VOTES BECAUSE OF EX PARTE/ SEPARATION OF FUNCTION REQUIREMENTS IN LAW. THIS WOULD RESULT IN MANY COMMISSION VOTES BEING TIED AND WOULD FURTHER EXACERBATE THE DIFFICULTY IN REACHING CLOSURE ON SIGNIFICANT POLICY OR SAFETY ISSUES. THE CHAIRMAN COULD TAKE MORE RISKS BY DECIDING NOT TO BRING MATTERS TO THE COMMISSION BECAUSE IT WAS BELIEVED SUCH MATTERS DID NOT PERTAIN TO COMMISSION FUNCTIONS OF ADJUDICATION, RULEMAKING, OR POLICY. SUCH A COURSE OF ACTION IS MORE THEORETICAL THAN REAL SINCE THE COMMISSION CURRENTLY HOLDS REGULAR AGENDA PLANNING SESSIONS. IT CAN BE SAFELY ASSUMED THAT IF THE COMMISSION AS A BODY DID NOT BELIEVE ITEMS PLACED ON THE AGENDA WERE WORTHY OF COMMISSION POLICY ATTENTION, IT WOULD SAY SO. CONSEQUENTLY, IT IS UNLIKELY THAT THE COMMISSION WOULD NOT VOTE TO REQUIRE THE CHAIRMAN TO BRING ITEMS TO THE COMMISSION IF THE CHAIRMAN ATTEMPTED TO SIGNIFICANTLY RESTRICT THE CURRENT CHARACTER OF THE AGENDA.

THE "LEAD" COMMISSIONER CONCEPT APPARENTLY IS APPEALING TO AT LEAST TWO OF THE CURRENT COMMISSIONERS. THE ADVANTAGE OF SUCH AN APPROACH APPEARS TO BE THAT OF GIVING AN INDIVIDUAL COMMISSIONER BOTH RESPONSIBILITY AND AUTHORITY FOR THE SUCCESS OF COMMISSION PROGRAMS IN PARTICULAR AREAS. THE CONCEPT ALSO

WOULD REQUIRE MORE COMMISSIONER TIME IN ASSIGNED AREAS THUS ALLOWING LESS TIME FOR FULL COMMISSION DELIBERATION OF OTHER MATTERS WHICH MAY NOT BE WORTHY OF SUCH TREATMENT. THIS MIGHT BE PERCEIVED AS ULTIMATELY GIVING THE CHAIRMAN MORE FLEXIBILITY IN THE ESTABLISHMENT OF THE COMMISSION AGENDA. THE DRAWBACKS OF THIS APPROACH ARE THOSE NOTED IN THE INTERVIEWS. FIRST, THE APPROACH IS ONLY VIABLE WHERE THE COMMISSIONERS ARE WILLING TO TRUST AND RESPECT THE JUDGEMENTS OF THEIR COLLEAGUE IN A PARTICULAR AREA. SECOND, IT ASSUMES THAT AN INDIVIDUAL COMMISSIONER WHO HAS THE LEAD IN AN AREA WILL ATTEMPT TO DISCERN AND IMPLEMENT THE WILL OF THE MAJORITY. FINALLY, IT WOULD FRAGMENT RATHER THAN CENTRALIZE MANAGEMENT OF THE AGENCY.

IN THE PAST, CHAIRMEN HAVE NOT OBJECTED FREQUENTLY TO INDIVIDUAL COMMISSIONER REQUESTS OF THE EDC STAFF. THIS IS IN PART BECAUSE THE REORGANIZATION PLAN IMPOSED UPON THE CHAIRMAN THE DUTY TO ENSURE THAT INDIVIDUAL COMMISSIONERS ARE "FULLY AND CURRENTLY INFORMED" ABOUT MATTERS WITHIN THE COMMISSION'S FUNCTIONS. SINCE THE COMMISSION HAS THE AUTHORITY TO VOTE THAT ANY MATTER IS WITHIN ITS FUNCTION, THE CHAIRMAN WOULD BE JUSTIFIED BY BEING CIRCUMSPECT ABOUT UNDULY INTERFERING WITH AN INDIVIDUAL COMMISSIONER'S REQUEST. THIS IS PARTICULARLY TRUE SINCE COMMISSIONERS TEND TO PROTECT THE COLLEGIAL PROCESS IN COMMISSION VOTES WHETHER OR NOT THEY ARE IN SUBSTANTIVE AGREEMENT WITH ONE ANOTHER.

THE REORGANIZATION PLAN ENUMERATES MATTERS OVER WHICH THE CHAIRMAN HAS EXCLUSIVE AUTHORITY. OTHER THAN EMERGENCY SITUATIONS WHERE THE CHAIRMAN'S AUTHORITY OVER ALL AGENCY FUNCTIONS IS CLEAR AND EXPLICIT, THE CHAIRMAN ESSENTIALLY IS GIVEN ADMINISTRATIVE AND ORGANIZATIONAL RESPONSIBILITY. THIS INCLUDES SERVING AS THE AGENCY'S OFFICIAL SPOKESMAN, REORGANIZATION OF PERSONNEL AND OFFICES, BUDGET PROPOSALS, AND DISTRIBUTION OF APPROPRIATED FUNDS. TO THE EXTENT THAT THESE MATTERS INVOLVED ADMINISTRATIVE FUNCTIONS OF THE CHAIRMAN, THEY WERE OF LITTLE INTEREST TO THOSE THAT THE STUDY GROUP INTERVIEWED AND APPEAR NOT TO BE CONTROVERSIAL WITHIN THE CURRENT COMMISSION. ^{2/} THE ONE EXCEPTION COULD BE THE CHAIRMAN'S ROLE AS OFFICIAL AGENCY SPOKESMAN.

THE CHAIRMAN HAS THE AUTHORITY TO SPEAK ON BEHALF OF THE AGENCY. WHILE THIS ROLE REQUIRES THE CHAIRMAN TO ACCURATELY REFLECT THE VIEWS OF THE COMMISSION AS A BODY, IT DOES NOT REQUIRE THE PRIOR APPROVAL OF PROPOSED STATEMENTS BY THE OTHER COMMISSIONERS. THE CHAIRMAN COULD SPEAK AUTHORITATIVELY ON

^{2/} COMMISSIONERS DO, HOWEVER, TAKE AN ACTIVE INTEREST IN HOW THE BUDGET IS PREPARED PARTICULARLY WHERE FUNDING OF PROGRAMS OF PARTICULAR INTEREST TO A COMMISSIONER IS INVOLVED. OF COURSE, THE COMMISSION GENERALLY APPROACHES THESE MATTERS AS POLICY ISSUES. THE CONCLUSION THAT SUCH MATTERS ARE OF LITTLE INTEREST TO COMMISSIONERS IS ONLY VALID TO THE EXTENT THAT SUCH FUNCTIONS ARE VIEWED AS MINISTERIAL AND ADMINISTRATIVE RATHER THAN POLICY-RELATED.

BEHALF OF THE AGENCY WITHOUT PRIOR CONSULTATION. THE PROBLEM WITH THIS APPROACH IS OBVIOUS. INDIVIDUAL COMMISSIONERS CAN WRITE THEIR OWN SPEECHES, DRAFT THEIR OWN PRESS RELEASES, AND WRITE THEIR OWN LETTERS. CONSEQUENTLY, FAILURE TO SEEK COMMISSIONER INPUT TO THE CHAIRMAN'S STATEMENTS WOULD ONLY RESULT IN AGENCY RESOURCES BEING SPENT TO PUT OUT FOUR ADDITIONAL VIEWS.

THE STUDY GROUP CONCLUDED THAT GIVEN THE HISTORY OF THE COMMISSION TO DATE AND THE LEGAL CONSTRAINTS IMPOSED ON THE CHAIRMAN BY THE REORGANIZATION PLAN, THE CHAIRMAN IS EXERCISING THE AUTHORITY THAT HAS BEEN PROVIDED AND THERE IS LITTLE MORE PRACTICAL AUTHORITY WHICH COULD BE PRODUCTIVELY USED. THE APPROPRIATIONS REPORT REQUESTED THAT THE CHAIRMAN REEXAMINE HIS AUTHORITY WITH PARTICULAR REFERENCE TO IMPROVEMENTS IN NPC MANAGEMENT OF THE TYPE RECOMMENDED BY THE KENELY AND GRACE COMMISSIONS.

THE GRACE COMMISSION SUGGESTION THAT THE CHAIRMAN BE GIVEN A STRONGER APPOINTMENT AND REMOVAL AUTHORITY OVER SENIOR STAFF DOES NOT INVOLVE A MATTER WHERE THE CHAIRMAN'S AUTHORITY WOULD BE SIGNIFICANTLY STRENGTHENED UNDER THE REORGANIZATION PLAN. THOSE INTERVIEWED BELIEVED THAT THE CHAIRMAN'S APPOINTMENT AND REMOVAL AUTHORITY WAS GENERALLY ADEQUATE AND RELATIVELY NONCONTROVERSIAL. TO STRENGTHEN THE REORGANIZATION PLAN LEGISLATIVELY

AS RECOMMENDED BY THE GRACE COMMISSION PROBABLY WOULD REQUIRE THE REMOVAL OF THE PROVISION ALLOWING COMMISSIONERS TO BRING ANY MATTER BEFORE THE COLLEGIAL BODY ON A MAJORITY VOTE. WHETHER ANY CHANGE IN THE WAY THE COMMISSION FUNCTIONS WOULD RESULT AS A CONSEQUENCE IS DEBATABLE. SOME WOULD ARGUE THAT CHANGE IS NOT POSSIBLE SO LONG AS THE TRADITIONS OF THE COMMISSION ARE PASSED ON FROM COMMISSIONER TO COMMISSIONER DUE TO STAGGERED TERMS.

THE KEMENY COMMISSION CALLED FOR MORE DRAMATIC CHANGES IN THE ORGANIZATION AND MANAGEMENT OF THE AGENCY. IN THIS REGARD IT IS USEFUL TO RECALL THE KEMENY COMMISSION FINDINGS AND RECOMMENDATIONS:

"THE NPC COMMISSIONERS HAVE LARGELY ISOLATED THEMSELVES FROM THE LICENSING PROCESS. ALTHOUGH THE COMMISSIONERS HAVE ADOPTED UNNECESSARILY STRINGENT ~~EX~~ PARTE RULES TO PRESERVE THEIR ADJUDICATIVE IMPARTIALITY, THEY HAVE ALSO DELEGATED MOST OF THE ADJUDICATIVE DUTIES TO THE ATOMIC SAFETY AND LICENSING APPEAL BOARD AND ACTUALLY ADJUDICATE APPROXIMATELY 25 PER CENT OF ALL LICENSING DECISIONS. ... THE COMMISSIONERS HAVE ALSO ISOLATED THEMSELVES FROM THE OVERALL MANAGEMENT OF THE NPC."

"THE NUCLEAR REGULATORY COMMISSION SHOULD BE RESTRUCTURED AS A NEW INDEPENDENT AGENCY IN THE EXECUTIVE BRANCH. THE PRESENT FIVE-MEMBER COMMISSION SHOULD BE ABOLISHED. THE NEW AGENCY SHOULD BE HEADED BY A SINGLE ADMINISTRATOR. ... THE ADMINISTRATOR SHOULD HAVE SUBSTANTIAL DISCRETIONARY AUTHORITY OVER THE INTERNAL ORGANIZATION AND MANAGEMENT OF THE NEW AGENCY, AND OVER PERSONNEL TRANSFERS FROM THE EXISTING NRC. UNLIKE THE PRESENT NRC ARRANGEMENT, THE ADMINISTRATOR AND MAJOR STAFF COMPONENTS SHOULD BE LOCATED IN THE SAME BUILDING OR GROUP OF BUILDINGS."

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WITH REGARD TO THESE PARTICULAR RECOMMENDATIONS OF THE KEMENY COMMISSION, IT IS CLEAR THAT THE CHAIRMAN IS STILL HAMPERED BY THE SAME CONSTRAINTS THAT THE KEMENY COMMISSION THOUGHT SHOULD BE RECTIFIED. THE COMMISSION STILL DELEGATES MOST OF THE ADJUDICATIVE FUNCTIONS TO THE APPEAL BOARD. THE COMMISSION IS ALSO ISOLATED FROM THE OVERALL MANAGEMENT OF THE NRC DUE TO THE EX PARTE/SEPARATION OF FUNCTION RULE PERTAINING TO ITS ADJUDICATORY RESPONSIBILITIES. THE NRC IS STILL LOCATED IN MULTIPLE BUILDINGS. NOTHING IN REORGANIZATION PLAN NO. 1 IS ADDRESSED TO THESE PARTICULAR PROBLEMS. CONSEQUENTLY, TO THE EXTENT THAT THE PURPOSE OF THE CHAIRMAN'S REEXAMINATION WAS TO DETERMINE WHICH, IF ANY, OF THESE PARTICULAR RECOMMENDATIONS COULD BE MORE FULLY IMPLEMENTED, IT IS APPARENT THAT THERE IS LITTLE MORE THAT CAN BE DONE WITHIN THE CONTEXT OF THE EXISTING REORGANIZATION PLAN.

ATTACHMENT E:

The following are major programs that will not be conducted in FY 1986 as a result of the OMP reduction:

NUCLEAR REACTOR REGULATION

1. Will not implement the pilot Integrated Safety Assessment Program (ISAP).
2. Will not restart reviews of OL applications for plants that have been deferred.
3. Will not resolve medium priority generic safety issues, including medium priority issues resulting from the TMI accident.
4. Will not resolve medium priority human factors issues, including issues resulting from the TMI accident.

INSPECTION AND ENFORCEMENT

5. Will eliminate all quality assurance initiatives for any reactor applications beyond those currently in the pipeline.
6. Will not develop improved radiological dose assessment model.

NUCLEAR MATERIALS SAFETY AND SAFEGUARDS

7. Will not accelerate reactor safeguards effectiveness reviews (by 8 per year).
8. Will not make improvements to the special nuclear material tracking system.
9. Will not reduce the growing nuclear materials and safeguards caseload backlogs.

NUCLEAR REGULATORY RESEARCH

10. The following research activities will be terminated:
 - Work on reactor instrumentation.
 - Work on contamination of fuel storage facilities by failed fuel.

- Planning for a modular thermal and hydraulic test facility to evaluate system response to transients and accidents.
 - All work beyond degraded core except to envelope severe accidents for containment loads.
 - All HTGR related reactor safety research.
 - Almost all human factors research.
11. No NRC funds are available for decommissioning and decontamination activities at the Power Burst Facility.

The following current programs will be impacted in FY 1986 as a result of the OMB reduction:

NUCLEAR REACTOR REGULATION

1. Delay completion of about 250 licensee requested operating reactor license amendments.
2. Maintain only onsite TMI-2 cleanup activities.

INSPECTION AND ENFORCEMENT

3. Reduce region-based operating reactor inspections in such areas as maintenance, surveillance, quality assurance, fire protection, physical security, radiological safety, and emergency preparedness.
4. Conduct region-based inspection with modest specialized technical contract support at reactors in outage.
5. Reduce technical assistance for vendor inspections in the areas of metallurgy, welding, NDE, design, ASME code and components.
6. Conduct fuel facilities inspections and materials inspections at FY 1985 level.
7. Reduce inspection support to investigations, allegation follow-up and problem facilities.
8. Inspect fewer reactor emergency response facilities.
9. Reduce periodic aerial radiological measurement surveys.
10. Reduce and delay verification of licensee environmental samples.

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11. Delay development of emergency response data system.
12. Reduce efforts to apply probabilistic risk assessment to the inspection program.

NUCLEAR MATERIALS SAFETY AND SAFEGUARDS

13. Moves NRC to be the constraining critical path item for the National HLW Program (estimated delays 2 to 6 months):
 - Likely delay DOE's initiation of shaft construction and at-depth site characterization work.
 - All but eliminates NRC overview of DOE's crystalline program and early review of DOE's site screening documents.
 - Delays HLW rulemaking (Part 60) schedule.
 - Delays development of NRC licensing guidance for DOE's repository program.
14. Reduce response to materials operating events.
15. Delay revision of NRC rules to conform to EPA standards (Part 40).
16. Reduces to minimum level of effort to resolve differences with EPA - mill tailings; low level waste; high level waste.

NUCLEAR REGULATORY RESEARCH

17. Significantly reduces ability to quantify amount of regulatory conservatism which could lead to:
 - Expending industry and NRC resources to conduct analyses in certain specific areas that could be avoided if verified analysis methods were approved as a result of planned research.
 - Reduction in plant electrical power generation capability due to the lack of technical basis to reduce conservatisms of present and future rulings in pressurized thermal shock, instrumentation and control, and primary system components.
 - Unnecessary plant shutdown, pending resolution of problems when they arise.

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PROGRAM TECHNICAL SUPPORT

18. Reduce the timeliness and ability to provide legal assistance to non-reactor hearing caseload.
19. Reduce ability to train State personnel in health and safety matters. The frequency of NRC-sponsored courses in such areas as basic radiation protection and uranium mill tailing training will be reduced, as will interactive workshops in high- and low-level waste disposal.
20. Reduce the timeliness and ability of the ACRS to respond to Commission and Staff requests because of curtailed collection and dissemination of background material concerning the operation of licensed nuclear power plants and developments at plants being readied for operation. In the past, this has enabled the Committee to respond quickly to requests for advice from the Commission. Examples of items that the Committee was able to advise the Commission were adequacy of small-bore piping at Diablo Canyon, the Browns Ferry fire, multiple tube failures at the Ginna Nuclear Power Station, and the Salem scram circuit breaker malfunction.

PROGRAM DIRECTION AND ADMINISTRATION

21. Limit ability to provide sufficient levels of administrative support to NRC programs.
 - Reduce effort associated with providing ADP assistance for new and continuing applications.
22. Limit ability to provide document control and retrieval services.
23. Limit development of small business utilization.

ATTACHMENT F:

RESPONSE TO QUESTION DURING FEBRUARY 28, 1985 HEARING ON
NUCLEAR REGULATORY RESOURCES IN GERMANY, JAPAN, FRANCE AND
CANADA.

NRC was asked during the subject hearing to provide information to the Subcommittee on the number of staff and the operating budgets of counterpart nuclear safety organizations in Canada, France, the FRG, and Japan. Because the Office of International Programs did not have such information readily available, they cabled their official contacts in the identified countries to request it on an urgent basis. The following is a summary of the responses they received.

Canada

The total budget of the Atomic Energy Control Board (AECB) of Canada for FY 85/86, which begins April 1, 1985, will be \$23,661,000 Canadian dollars (\$1.00 U.S. = \$1.37 Canadian), of which \$1,227,000 are earmarked for Canadian safeguards support of the IAEA safeguards program and \$3,462,000 for mission-oriented safety research. The AECB noted in its response that, unlike the U.S., the Canadian regulatory system requires licensees to undertake primary responsibility for necessary nuclear safety R&D.

The AECB has a staff complement of 285 full-time employees.

France

France had some difficulty in answering NRC's questions directly because its organizational set-up is different from that of the U.S. France therefore supplied two sets of figures, the first for regulatory matters, which they define as licensing, inspection, and regulation under the Ministry of Industrial Restructuring and Outside Commerce, including the Central Service for the Safety of Nuclear Installations and local nuclear offices in the regions (DRIRs) with technical support from the Atomic Energy Commission's Institute for Protection and Nuclear Safety (IPSN), and the second covering only safety research at the IPSN.

In the regulatory area, the total budget for the Ministry (including DRIRs and IPSN technical support) this fiscal year is 235 million francs (\$1.00 U.S. = 9.88 francs) and its total personnel count is 405. The Ministry itself has a staff of 115, including 52 in DRIRs, and a budget of 30 million francs. The IPSN has a technical support staff of 290, about 70% of whom are engineers, and accounts for the other 205 million francs in the budget.

In the safety research area, the IPSN has a budget of 250 million francs and a staff of 460, about 40% of whom are engineers.

Federal Republic of Germany

The FRG, too, has organized its nuclear safety activities much differently from the U.S. They have provided the following explanation of their system and then attempted to be as responsive as possible to the questions as NRC raised them.

Responsibilities for licensing and supervision of nuclear facilities as well as for handling radioisotopes in the FRG are different compared to the U.S.A. with its centralized authority, the NRC. The German constitution (Grundgesetz) provides that the states (Laender) execute the federal atomic law on behalf of the federation (Bund). The Ministry of the Interior supervises the states with respect to compliance with the federal atomic law and to expediency.

Generic investigations into nuclear safety and radiological impacts are carried out for the federal government, and in particular for BMI, by experts and are examined by BMI's advisory bodies, the Reactor Safety Commission (Reaktor-Sicherheitskommission, RSK) and the Radiological Protection Commission (Strahlenschutzkommission, SSK). Most of these evaluations are done by the Reactor Safety Company (GRS) and the large nuclear research centers.

The competent state licensing/supervising authorities call in the technical inspection agencies (Technische Ueberwachungs-Vereine, TUEVs) and the GRS as experts to evaluate nuclear safety aspects and to supervise operation. These activities of TUEV and GRS are paid as fees by the applicants. The expenditures of the state authorities for the execution of the federal atomic law are refunded by BMI.

1. Manpower resources in the FRG with respect to nuclear regulatory activities (including experts, advisers, etc.):

BMI (with respect to nuclear safety aspects), about 80

State authorities (with respect to nuclear safety aspects), 150 - 200

TUEVs (nuclear departments), 350 - 400

GRS (with respect to nuclear safety aspects), 250 - 300

Nuclear research centers (with respect to nuclear safety aspects), about 300

RSK, SSK (including committees), about 125

Total: 1,300 - 1,350

In addition about 1,000 part-time experts are employed.

2. Financial expenditures of BMI with respect to nuclear regulatory activities (1985):

Safety of nuclear facilities, about 36.5 million DM (\$1.00 U.S. = 3.23 DM)

Radiological protection, about 21.5 million DM

Expenditures of RSK/SSK, about 1.0 million DM

Refunding of states' expenditures, about 12.0 million DM

Total: About 71 million DM

Japan

The Japanese found it impossible to separate the budget for safety from the budget for promotion, and so provided FY 1984 figures for nuclear energy in general. A copy of their submittal, which covers both budget and personnel, is attached. (\$1.00 U.S. = 253.5 yen)

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MARCH 14TH

THE STAFF MEMBERS AND THE OPERATING BUDGET
IN JAPAN

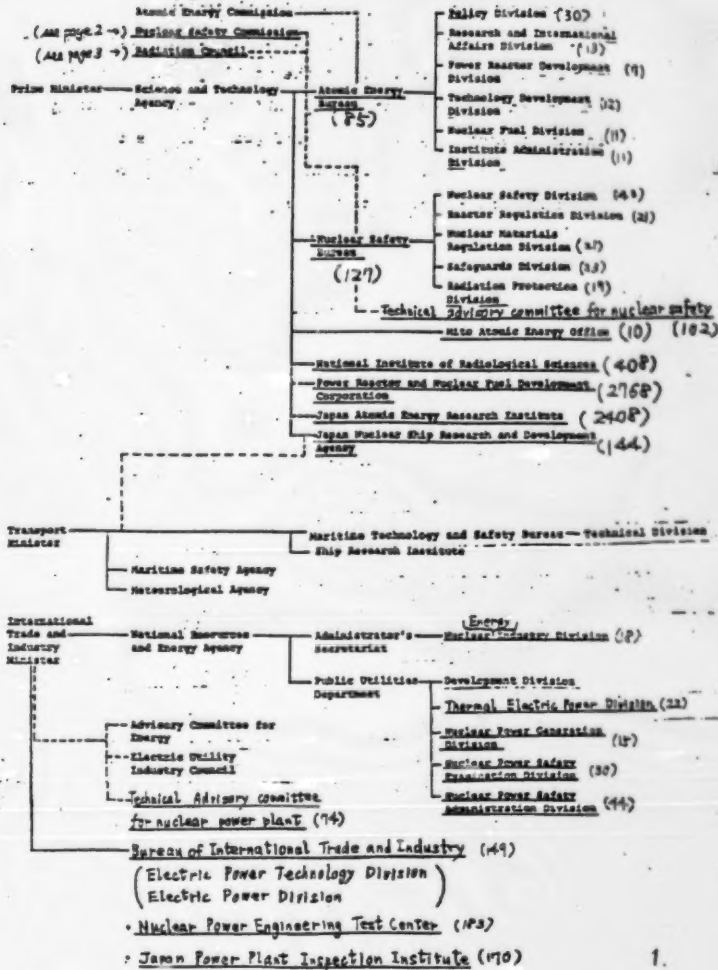
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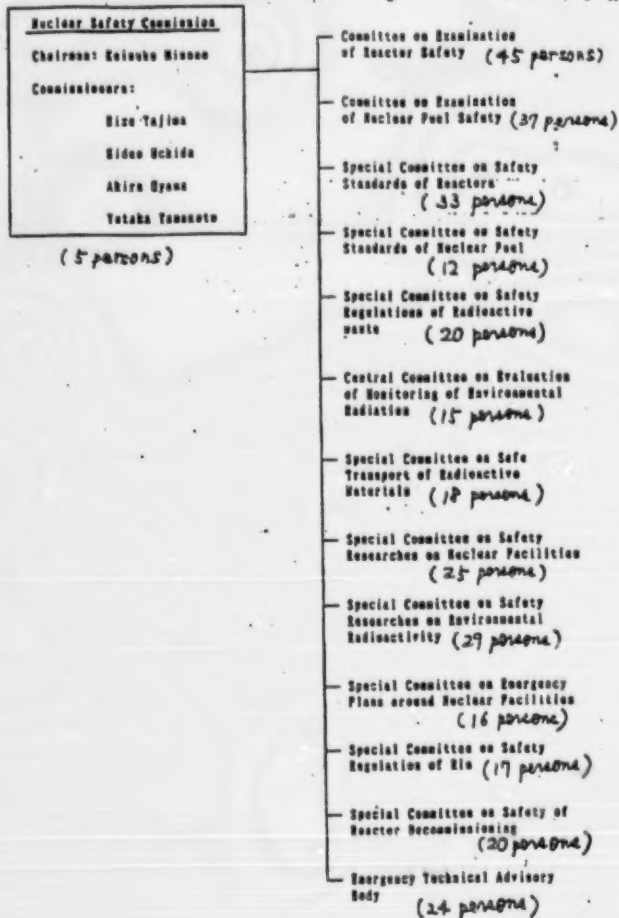
1. Staff Members



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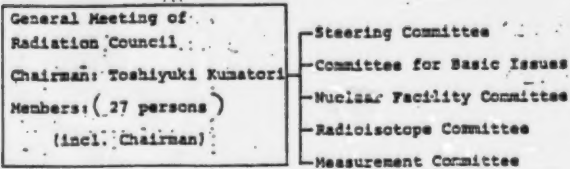
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NSC Organization Chart (as of the end of February, 1985)

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Radiation Council

Organization Chart (as of the end of February, 1985)



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2. Operating Budget

Japan's Nuclear-related Budget for Fiscal 1984

(Unit: ¥1 million)

* Ceiling for extra-budgetary obligation sums in parentheses are for the preceding year. Percentages in parentheses are in comparison with the preceding year.

	Science and Technology Agency	MITI	Ministry of Foreign Affairs, etc.	Total
General Account (一般会計)	* 46,101 166,112 { 63,664 { 173,127 { 93.9%	305 (328) (108.7%)	3,228 (2,970)	* 46,101 169,645 { 63,664 { 176,425 { 96.2%
Special Account for Promoting Electric Power Development (電力開発促進特別会計)	* 76,535 78,743 16,113 70,742 (111.3%)	58,186 (44,753) (130.0%)		* 76,535 136,931 { 16,113 { 115,497 { 118.6%
Account for Electric Power Plant Site Acquisition, etc. (電源立地促進) Account for Diversifying Power Source (電源多様化促進)	10,481 (9,488) (110.3%) * 76,535 68,264 { 16,113 { 61,254 { 111.4%	40,049 (31,320) (127.9%) 18,137 (13,435) (135.0%)		50,530 (40,808) (123.8%) * 76,535 86,401 { 16,113 { 74,669 { 115.7%
Total	* 22,635 244,657 { 81,776 { 243,669 { 100.4%	58,491 (45,083) (129.7%)	3,228 (2,970) (108.7%)	* 122,635 304,977 { 81,776 { 291,921 { 105.0%

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Nuclear Energy Budget

(10⁶ yen)

Item	1982	1983	1984
Japan Atomic Energy Research Institute	84,601	82,986	82,589
Japan Nuclear Ship Research and Development Agency	7,197	10,818	7,730
Power Reactor and Nuclear Fuel Development Corporation	72,615	67,422	63,702
National Institute of Radiological Sciences	5,851	5,835	6,052
Test and Research in National Institutes	1,784	1,766	1,732
Trust Money for Research of Atomic Energy for Peaceful Use	156	136	116
Quality Improvements of Scientific Engineers	72	72	94
Countermeasures for Radioactive Waste Management	209	187	169
Study and Research on Radioactivity Measurements	1,038	1,010	988
Institute of Physical and Chemical Research	1,321	1,310	1,516
Atomic Energy Commission	133	147	144
Nuclear Safety Commission	268	252	245
Radiation Council	1	1	1
Administrative Expenditures of Science and Technology Agency	994	983	1,035
Total	176,200	173,127	166,112
Administrative Expenditures of Ministries, Agencies concerned	2,8	3,298	3,533
Special Account for Power Development (related to Nuclear Energy)	111,417	115,497	136,931
(Account for Siting)	43,285	40,808	50,530
(Account for Diversification)	68,132	74,689	86,401
Grand Total	290,448	291,921	306,577

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Budget for Nuclear Safety Research, FY 1984
STA Appropriation by General Account

Unit: million yen
 (1 = P.Y. 1983 Budget)

Conducting Institution Field of Research	JAERI	PNC	National Laboratories	Private Company	Total	Conducting Institution and Budget of Main Research		
						Research Programs	Conducting** Institutions	Budget FY 1984
1. Light water Reactor Fuel	1,896 (1,978)				1,896 (1,978)	- Reactivity Initiated Accident (RIA) - OECD-Molten Fuel Project* - Fuel Behavior during Severe Core Damage*	JAERI JAERI JAERI	906 264 339
2. Loss of Coolant Accident (LOCA)	2,443 (1,710)				2,443 (1,710)	- MCSA-IV Project - OECD-LOFT Project*	JAERI JAERI	1,637 263
3. Structural Safety of Light-water Reactor Facilities	76 (76)		29 (90)		105 (168)	- Structural Safety - Corrosion Fatigue and SCC of Structural Materials	JAERI NRIM	76 12
4. Reduction of Radioactive Substances Discharged from Nuclear Facilities	10 (10)	696 (559)			706 (569)	- Development of Removal and Recovery Techniques of Krypton	PNC	650
5. Probabilistic Risk Assessment of Nuclear Facilities	206 (206)				206 (206)	- Research on Probabilistic Risk Assessment - Research on the Integrity of Electric Cables for Nuclear Reactors	JAERI JAERI	100 93
6. Earthquake Resistance of Nuclear Facilities			101 (114)		101 (114)	- Standardization of the Method for Investigating the Stability of Topographical Features - Confirmation of the Margin of Safety in Earthquake Resistance of Equipment and Piping Systems	GS NRCNP	51 24
7. Safety of Nuclear Fuel Cycle Facilities	165 (233)	1,035 (1,141)		9 (30)	1,209 (1,316)	- Safety in High-level-Radioactive Waste Handling Facilities - Critical Safety Experiment	PNC JAERI	150 110
8. Safety of Nuclear Fuel Packaging	15 (15)		27 (33)	7 (8)	49 (56)	- Structural Strength - Safety Evaluation during Overland Shipment of Fuel Materials	REL CNIEP	11 8
Miscellaneous	2,034 (2,005)				2,034 (2,005)	- Maintenance and Operation of Computer	JAERI	1,780
Total	6,945 (6,293)	1,731 (2,000)	157 (237)	16 (18)	8,789 (9,361)	* Overseas Projects	**See the list of abbreviation at the end.	

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Nuclear Safety Demonstration Test Programs by Special
Account for Power Sources Development

Gov't Agency	Demonstration Test Programs	Budget: M.Yen FY 1984 (FY 1983)	Conducting Institutions*	Remarks
STA	1. Reliability of piping	335 (271)	JAEPI	pipe whip, jet impingement
	2. Large-scale reflooding	1,538 (1,473)	JAEPI	3D/3D with BNFL & USNRC
	3. Reliability of packagings for spent fuels	268 (425)	CRIVEI	
	4. Corrosion resis- tance and filter performance of reprocessing facilities	711 (722)	JAEPI & others	
	Sub-total	2,852 (2,891)		
MITI	1. Reliability of valves	0 (588)	NUPEC	
	2. Reliability of fuel assemblies	1,109 (1,091)	NUPEC	
	3. Reliability of heat affected zones such as welds	863 (867)	NUPEC	
	4. Reliability of pumps	781 (500)	NUPEC	
	5. Earthquake resis- tance of nuclear power facilities	3,796 (3,592)	NUPEC	Large-scale vibration table at Tadotsu
	6. Reliability of electric instruments	326 (97)	NUPEC	
	Sub-total	6,875 (6,735)		
Total		9,727 (9,626)		

*See the list of abbreviation
at the end.

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List of Abbreviation for Conducting Institutions

1. JAERI ----- Japan Atomic Energy Research Institute
2. PNC ----- Power Reactor and Nuclear Fuel Development Corporation
3. NRI ----- National Research Institute for Metals
4. GS ----- Geological Survey of Japan
5. NRCDF ----- National Research Center for Disaster Prevention
6. MEL ----- Mechanical Engineering Laboratory
7. CRIEPI ----- Central Research Institute of Electric Power Industry
8. NUPEC ----- Nuclear Power Engineering Test Center

ATTACHMENT G:

In May 1983, the Long Island Light Company (LILCO) submitted interim offsite plans for the Shoreham Nuclear Power Station. In December 1983 and July 1984, Revisions 3 and 4, respectively, (currently identified as the LILCO Transition Plan) were received for review. All of these plans were submitted to the Federal Emergency Management Agency for review, as FEMA has the responsibility for evaluating the adequacy of offsite emergency preparedness. The NRC has also reviewed these plans, because of our interest in their interface with the LILCO onsite emergency plan and the NRC's responsibility to provide an overall assessment of adequacy of both onsite and offsite emergency preparedness. Approximately 480 hours have been spent by the NRC for this review, which includes 160 hours by the NRC member of the Regional Assistance Committee in support of the FEMA review activities. In addition, the Atomic Safety and Licensing Board spent 70 days in hearings and 13 days in prehearing conferences in considering the adequacy of these plans. Approximately 125 person days were spent by staff attorneys and paralegals participating in these hearings. An additional 345 person days were spent by staff attorneys and paralegals in preparing for the hearings and in drafting post hearing document.

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COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

February 4, 1985

The Honorable Nunzio Palladino
Chairman
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Chairman:

The Subcommittee on Energy and the Environment will hold a hearing on the NRC Budget Authorization for FY 1986-1987 on Thursday, February 28, 1985. I would appreciate the Commission's testimony regarding the budget request, its impact on or reflection of Commission policy, and current regulatory issues. I am also interested in the views of individual commissioners on the Chairman's January 24 letter and accompanying documents prepared pursuant to the report accompanying the FY 1985 Energy and Water Development Appropriation Bill (H. Rept. 98-755).

In addition, please address the questions attached.

The hearing will take place in Room 1324 Longworth at 9:45 a.m.

I appreciate your attention to these matters, and look forward to meeting with you and your associates.

Sincerely,



MORRIS K. UDALL
Chairman

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QUESTIONS FOR NRC AUTHORIZATION HEARINGS

1. LICENSING DATA

Please provide for the record the following data with respect to reactors receiving authorization for fuel load since 1979:

- (A) date of authorization of fuel load;
- (B) date of issuance of operating license authorizing operation at power levels up to 5% of full power;
- (C) date of initial criticality;
- (D) date of authorization of full power authorization;
- (E) date at which reactor operated for 100 consecutive hours at 90% or more of full power.

2. LICENSING CRITERIA

In recent licensing actions, the Commission's finding that the completed reactors complied with the Commission's safety regulations appears to have been based on inspections and audits conducted after construction had been virtually completed. Please describe the criteria used by the Commission in post-construction inspections and audits to establish compliance with regulations in circumstances where significant quality assurance breakdowns have occurred. Please indicate for the record the regulations, regulatory guides, and other documents which specify and enumerate criteria for such post-construction inspections and audits.

3. EFFECT OF EARTHQUAKES ON EMERGENCY PLANS

In authorizing full power operation at Diablo Canyon, the Commission adopted the position that an earthquake with magnitude less than the Safe Shutdown Earthquake (SSE) was unlikely to cause a reactor accident requiring implementation of the emergency plan. This position was an essential element in the Commission's deciding that, in the Diablo Canyon proceeding, there was no need to consider the impact of an earthquake upon the workability of the emergency plan.

-- What analysis was conducted to estimate the probability that an earthquake, smaller than the SSE, would initiate an accident that might require implementation of the Diablo Canyon emergency plan?

-- What is the basis for concluding that such an earthquake is significantly less likely to initiate an accident requiring implementation of the emergency plan than other accident initiators which are implicit in the imposition of emergency planning requirements?

4. CONTROL SYSTEMS FAILURES AND PRESSURIZED THERMAL SHOCK

Please describe the status of the NRC staff's effort to resolve questions concerning the safety significance of control system failures including such failures which might cause pressurized thermal shock. In view of the potential significance of the issue and the substantial controversy surrounding it, this status report should specify areas of substantial disagreement among the staff with respect to what is known about the problem, progress in obtaining information necessary to resolve it, and the amount of time and money necessary to reach a satisfactory resolution. In addition, please indicate the priority the Commission has assigned resolution of control system failure questions vis-a-vis resolution of other major safety issues.

5. RESEARCH

--Please enumerate changes in regulatory requirements, put into effect in FY 1984, that have resulted from NRC-sponsored research. Describe the relationship of the current NRC research program to regulatory requirements.

6. WORK EMPHASIS

--Describe activities at the Commission reflecting the continuing change in the agency's workload from emphasis on licensing of nuclear plants to regulation of operating facilities and decommissioning. What will be the role of the Office of Nuclear Reactor Regulation as reactor licensing functions are curtailed? Are there areas in which activities of NRC's Office of Operating Reactors and the Office of Inspection and Enforcement now overlap? How are the respective roles of these groups distinguished?

7. BUILDING CONSOLIDATION

--What is the status of efforts to achieve building consolidation?

8. LICENSING CHANGES

--Please describe all changes in the hearing process or other procedures for reactor licensing or license modification now proposed or under consideration by the Commission or the staff, including, but not limited to, the Commission's licensing reform legislation proposal. For the record, please provide current memoranda, notices or other documents in which such changes are proposed or discussed.

9. NRC-EPA NEGOTIATIONS

--Describe the status of negotiations between the Commission and the Environmental Protection Agency regarding regulation of low level nuclear waste disposal and uranium mill tailings. If the Commission believes legislation is necessary to clarify jurisdictional roles of the agencies, specifically what legislative changes does the Commission recommend?

10. HIGH LEVEL WASTE REPOSITORY

--What is the role of the NRC in oversight of the Department of Energy's high level waste repository development program? What formal and informal procedural requirements and technical review requirements have been imposed or requested by NRC for the pre-licensing period? Why is performance assessment methodology development a pre-licensing issue?

--The DOE Mission Plan for development of high level waste repositories indicates that Title I and some Title II design work is planned to be provided at all three sites characterized, prior to final site selection and license application. To what extent do NRC requests or requirements create the need for such design work? Does this design detail contribute to the technical understanding, confidence in or licenseability of a repository site? Is a 20-foot shaft required to fulfill NRC requirements or recommendations for site characterization? What is the estimated cost per site of meeting NRC site characterization requirements or recommendations?

11. DECOMMISSIONING

--Describe the status of reactor decommissioning now under way, including NRC participation in or oversight of the decommissioning of the Shippingport facility in Pennsylvania, and the Commission's proposed rule for regulation of decommissioning. Specifically, to what extent is a reactor site required to be decontaminated following termination of reactor operations? Are decommissioning funds required to be segregated or otherwise protected to assure their availability regardless of the financial health of the licensee at the time at which the reactor terminates operation?

--On what schedule must uranium mines and mills which close down decommission facilities and reclaim tailings impoundments? How many licensed operations have closed in the past year or are expected to close in the next year and at what time will they be required to begin decommissioning?

QUESTION 1.

LICENSING DATA

PLEASE PROVIDE FOR THE RECORD THE FOLLOWING DATA
WITH RESPECT TO REACTORS RECEIVING AUTHORIZATION
FOR FUEL LOAD SINCE 1979.

- (A) DATE OF AUTHORIZATION OF FUEL LOAD:
- (B) DATE OF ISSUANCE OF OPERATING LICENSE AUTHORIZING OPERATION AT POWER LEVELS UP TO 5% OF FULL POWER:
- (C) DATE OF INITIAL CRITICALITY:
- (D) DATE OF AUTHORIZATION OF FULL-POWER AUTHORIZATION:
- (E) DATE AT WHICH REACTOR OPERATED FOR 100 CONSECUTIVE HOURS AT 90% OR MORE FULL POWER.

ANSWER

THE NUCLEAR REGULATORY COMMISSION HAS NORMALLY ISSUED LOW-POWER LICENSES THAT PERMIT FUEL LOADING AND OPERATION UP TO 5% OF THE RATE POWER. IN A FEW CASES, THE COMMISSION HAS ISSUED A FUEL-LOAD LICENSE. THE PLANTS THAT HAVE RECEIVED FUEL-LOAD LICENSES ARE SEQUOYAH 1 (FEBRUARY 29, 1980), MCGUIRE 1 (JANUARY 23, 1981), DIABLO CANYON 1 (NOVEMBER 8, 1983), CATAWBA (JULY 18, 1984), AND SHOREHAM (DECEMBER 7, 1984). THE FOLLOWING TABLE PROVIDES THE REST OF THE REQUESTED INFORMATION. NOTE THAT THE COMMERCIAL OPERATION COLUMN LISTS THE DATE WHICH THE LICENSEE DECLARED THE UNIT AS COMMERCIALY OPERABLE. THE NRC DOES NOT MAINTAIN RECORDS OF WHEN THE REACTOR HAS COMPLETED ITS SO-CALLED WARRANTY RUN (100 CONSECUTIVE HOURS AT 90% OR MORE OF FULL POWER). THE LICENSEE DECLARES THE UNIT AS COMMERCIALY OPERABLE SOME TIME AFTER THE WARRANTY RUN.

MILESTONE DATA FOR PLANTS LICENSED SINCE TH1

Plant Name	Type	5% Power Lic. Issued	Initial Criticality	Full Power Lic. Issued	Commercial Operation
*****	----	*****	*****	*****	*****
Sequoyah 1	PWR	29-Feb-80	05-Jul-80	17-Sep-80	01-Jul-81
North Anna 2	PWR	11-Apr-80	12-Jun-80	21-Aug-80	14-Dec-80
Salem 2	PWR	13-Apr-80	02-Aug-80	20-May-81	13-Oct-81
Farley 2	PWR	23-Oct-80	08-May-81	31-Mar-81	30-Jul-81
McGuire 1	PWR	12-Jun-81	08-Aug-81	08-Jul-81	01-Dec-81
Sequoyah 2	PWR	25-Jun-81	06-Nov-81	15-Sep-81	01-Jun-82
San Onofre 2	PWR	16-Feb-82	26-Jul-82	07-Sep-82	08-Aug-83
LaSalle 1	BWR	17-Apr-82	21-Jun-82	13-Aug-82	01-Jan-84
Grand Gulf 1	BWR	16-Jun-82	18-Aug-82	31-Aug-84	
Susquehanna 1	BWR	17-Jul-82	10-Sep-82	12-Nov-82	08-Jun-83
Summer 1	PWR	06-Aug-82	22-Oct-82	12-Nov-82	01-Jan-84
San Onofre 3	PWR	15-Nov-82	29-Aug-83	16-Sep-83	01-Apr-84
McGuire 2	PWR	03-Mar-83	08-May-83	27-May-83	01-Mar-84
St. Lucie 2	PWR	06-Apr-83	02-Jun-83	10-Jun-83	08-Aug-83
LaSalle 2	BWR	16-Dec-83	10-Mar-84	23-Mar-84	17-Oct-84
WNP-2	BWR	20-Dec-83	19-Jan-84	13-Apr-84	13-Dec-84
Susquehanna 2	BWR	23-Mar-84	08-May-84	27-Jun-84	
Diablo Canyon 1	PWR	19-Apr-84	29-Apr-84	02-Nov-84	
Callaway 1	PWR	11-Jun-84	02-Oct-84	18-Oct-84	
Limerick 1	BWR	26-Oct-84	27-Dec-84		
Byron 1	PWR	31-Oct-84	02-Feb-85	14-Feb-85	
Catawba 1	PWR	06-Dec-84	07-Jan-85	17-Jan-85	
Shoreham 1	BWR	07-Dec-84**	15-Feb-85		
Waterford 3	PWR	18-Dec-84			
Palo Verde 1	PWR	31-Dec-84			

* NOT COMPLETED

** Fuel load and cold criticality testing license limited to 24 Kw thermal

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QUESTION 2. IN RECENT LICENSING ACTIONS, THE COMMISSION'S FINDING THAT THE COMPLETED REACTORS COMPLIED WITH THE COMMISSION'S SAFETY REGULATIONS APPEARS TO HAVE BEEN BASED ON INSPECTIONS AND AUDITS CONDUCTED AFTER CONSTRUCTION HAD BEEN VIRTUALLY COMPLETED.

- (A) PLEASE DESCRIBE THE CRITERIA USED BY THE COMMISSION IN POST-CONSTRUCTION INSPECTIONS AND AUDITS TO ESTABLISH COMPLIANCE WITH REGULATIONS IN CIRCUMSTANCES WHERE SIGNIFICANT QUALITY ASSURANCE BREAKDOWNS HAVE OCCURRED.

ANSWER.

THE COMMISSION'S FINDING THAT REACTOR FACILITIES HAVE BEEN BUILT IN ACCORDANCE WITH THE APPLICATION FOR LICENSE AND THE RULES AND REGULATIONS OF THE COMMISSION IS BASED ON THE COMBINED EFFORTS OF THE STAFF THROUGH LICENSING EVALUATIONS, INSPECTIONS CONDUCTED THROUGHOUT THE CONSTRUCTION AND TESTING OF THE FACILITY, AND THE INFORMATION PROVIDED BY THE APPLICANT. IN SOME CASES INFORMATION SUPPLIED BY THE APPLICANT MAY INCLUDE RESULTS OF INDEPENDENT REVIEWS OF SUCH AS THOSE FROM INDEPENDENT DESIGN VERIFICATION PROGRAMS AND CONSTRUCTION ASSESSMENT PROGRAMS.

IN ADDITION, WHERE SPECIAL PROBLEMS ARE IDENTIFIED THROUGH ALLEGATIONS, TESTING, IDENTIFICATION OF PROGRAM BREAKDOWNS, OR SOME OTHER MEANS, SPECIAL REVIEWS OR INSPECTIONS BY THE STAFF MAY BE

QUESTION 2. (CONTINUED)

UTILIZED TO PROVIDE ADDITIONAL ASSURANCE THAT THE FACILITY HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPLICATION AND RULES AND REGULATIONS OF THE COMMISSION. IF THE NRC DETERMINES THAT QA BREAKDOWNS HAVE NOT PRODUCED HARDWARE DEFICIENCIES, THE COMMISSION RELIES UPON UPDATED ANALYSIS TO ESTABLISH THIS FACT AND NO FURTHER ACTIONS ARE REQUIRED. IN THOSE CASES WHERE SIGNIFICANT QUALITY ASSURANCE BREAKDOWNS HAVE RESULTED IN HARDWARE NOT CONFORMING TO THE COMMITTED TO ACCEPTANCE CRITERIA, THE NRC DETERMINES COMPLIANCE OF THE PLANT WITH THE COMMISSION'S RULES AND REGULATIONS, BY USING VARIOUS METHODS. IN SOME CASES, WHEN THE INITIAL ACCEPTANCE CRITERIA ARE NOT MET, MODIFICATIONS ARE MADE TO REMEDY HARDWARE DEVIATIONS. IN SOME OTHER CASES, MORE REALISTIC TO ACCEPTANCE CRITERIA HAVE BEEN GRANTED IN ORDER TO ESTABLISH ACCEPTABILITY OF THE IN-SITU PLANT STRUCTURES, EQUIPMENT AND COMPONENTS. IN OTHER CASES, THE IN-SITU DEVIATIONS WERE FOUND TO BE INSIGNIFICANT FOR ESTABLISHING CONFORMANCE WITH THE COMMISSION'S REGULATIONS AND WERE THEREFORE ACCEPTABLE.

COMMISSIONER ASSELSTINE HAS THE FOLLOWING COMMENT: I THINK THE ABOVE TRANSLATES INTO THE FOLLOWING. IN SOME CASES, THE REMEDIAL ACTIONS MAY RESULT IN A HIGHER ASSURANCE OF SAFETY ADEQUACY THAN HAD THERE BEEN NO BREAKDOWN IN THE QUALITY ASSURANCE PROGRAM, WHILE IN OTHER CASES, THE DEGREE OF CONFIDENCE MAY BE LESS. IT ALL DEPENDS ON THE CIRCUMSTANCES OF THE PARTICULAR CASE.

QUESTION 2. (B) PLEASE INDICATE FOR THE RECORD THE REGULATIONS,
REGULATORY GUIDES AND OTHER DOCUMENTS WHICH
- SPECIFY AND ENUMERATE CRITERIA FOR SUCH POST-
CONSTRUCTION INSPECTIONS AND AUDITS.

ANSWER.

THE REGULATIONS, REGULATORY GUIDES AND OTHER DOCUMENTS USED FOR
POST-CONSTRUCTION INSPECTIONS AND AUDITS ARE THE SAME AS THOSE
WHICH THE APPLICANT DESCRIBED IN HIS APPLICATION FOR LICENSE. AS
DESCRIBED ABOVE, CRITERIA FOR POST-CONSTRUCTION INSPECTION AND
AUDITS ARE NOT DIFFERENT FROM THE CRITERIA USED THROUGHOUT THE
CONSTRUCTION PROCESS; ONLY THE TIMING AND METHODS VARY TO ADDRESS
SPECIFIC PROBLEMS.

QUESTION 2. EFFECT OF EARTHQUAKES ON EMERGENCY PLANS: IN AUTHORIZING FULL POWER OPERATION AT DIABLO CANYON, THE COMMISSION ADOPTED THE POSITION THAT AN EARTHQUAKE WITH MAGNITUDE LESS THAN THE SAFE SHUTDOWN EARTHQUAKE (SSE) WAS UNLIKELY TO CAUSE A REACTOR ACCIDENT REQUIRING IMPLEMENTATION OF THE EMERGENCY PLAN. THIS POSITION WAS AN ESSENTIAL ELEMENT IN THE COMMISSION'S DECIDING THAT, IN THE DIABLO CANYON PROCEEDING, THERE WAS NO NEED TO CONSIDER THE IMPACT OF AN EARTHQUAKE UPON THE WORKABILITY OF THE EMERGENCY PLAN.

- (A) WHAT ANALYSIS WAS CONDUCTED TO ESTIMATE THE PROBABILITY THAT AN EARTHQUAKE, SMALLER THAN THE SSE, WOULD INITIATE AN ACCIDENT THAT MIGHT REQUIRE IMPLEMENTATION OF THE DIABLO CANYON EMERGENCY PLAN?

ANSWER:

THE SAFE SHUTDOWN EARTHQUAKE, OR SSE, FOR A NUCLEAR PLANT IS BASED UPON AN EVALUATION OF THE MAXIMUM EARTHQUAKE POTENTIAL FOR THE SPECIFIC SITE. THE SSE IS EVALUATED AS THAT EARTHQUAKE WHICH PRODUCES THE MAXIMUM VIBRATORY GROUND MOTION FOR WHICH CERTAIN STRUCTURES, SYSTEMS AND COMPONENTS MUST BE DESIGNED AND CONSTRUCTED TO REMAIN FUNCTIONAL. ALL STRUCTURES, SYSTEMS AND COMPONENTS NECESSARY TO ACHIEVE A SAFE SHUTDOWN ARE SEISMICALLY

QUESTION 3.

QUALIFIED FOR THE SSE AND ARE EXPECTED, WITH HIGH CONFIDENCE, TO FUNCTION TO BRING THE PLANT TO A SAFE SHUTDOWN.

PROBABILITIES ESTIMATED FOR THE OCCURRENCE OF AN SSE ARE TYPICALLY ON THE ORDER OF ONE IN A THOUSAND TO ONE IN TEN THOUSAND PER YEAR. HOWEVER, BECAUSE OF THE SHORT EARTHQUAKE HISTORY IN THE U.S., IN COMPARISON TO THE RETURN PERIOD OF LARGE EARTHQUAKES, AMONG OTHER FACTORS, THESE ESTIMATES MAY HAVE LARGE UNCERTAINTIES.

BECAUSE OF THE HIGH CONFIDENCE IN THE ABILITY OF A PLANT TO SHUTDOWN SAFELY AFTER AN SSE, THE COMMISSION BELIEVES THAT THE ONLY CIRCUMSTANCES WHICH WOULD CREATE A CHANCE OF AN ACCIDENT WHICH WOULD REQUIRE OFFSITE EMERGENCY RESPONSE WOULD BE THE EVENT OF MULTIPLE UNRELATED FAILURES OF SAFETY RELATED SYSTEMS DUE TO SOME UNDISCOVERED COMMON CAUSE FAILURE MECHANISM (SUCH AS A MAJOR DESIGN ERROR), COINCIDENT WITH A SEVERE EARTHQUAKE SUCH AS AN SSE. THE PROBABILITY OF THESE TWO EVENTS OCCURRING PROXIMATELY IN TIME IS VERY MUCH LOWER THAN THE PROBABILITY OF EITHER INDIVIDUAL EVENT, PERHAPS ON THE ORDER OF ONE IN A MILLION PER YEAR.

THESE CONSIDERATIONS ARE APPLICABLE TO DIABLO CANYON. THE NECESSARY STRUCTURES, SYSTEMS AND COMPONENTS OF THE DIABLO CANYON PLANT WERE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ALL THE APPROPRIATE NRC REQUIREMENTS TO PERFORM THEIR INTENDED FUNCTION DURING AND FOLLOWING AN EARTHQUAKE OF A MAGNITUDE UP TO THE SSE. THE COMMISSION'S TREATMENT OF THE POSSIBLE COMPLICATING EFFECTS OF

QUESTION 3.

EARTHQUAKES ON EMERGENCY PLANNING WAS BASED, IN PART, ON THE COMMISSION'S UNUSUALLY EXTENSIVE REVIEW OF THE ADEQUACY OF THE SEISMIC DESIGN OF DIABLO CANYON AND ON ITS CONCLUSION THAT THE PROBABILITY OF THE OCCURRENCE OF SIGNIFICANT EARTHQUAKES IN THE VICINITY OF DIABLO CANYON WAS LOW SINCE THE RECORD REVEALED THAT "AT MOST, THE REGION IS ONE OF 'MODERATE SEISMICITY'." DEUKMEJIAN, SLIP OP. AT 29 N.91 QUOTING CLI-84-12, AT 8, J.A.S. AT 258 (EMPHASIS BY THE COURT). THE COMMISSION CONCLUDED THAT BOTH PRONGS OF THIS ANALYSIS WERE SUPPORTED BY AN EXTENSIVE RECORD THAT PROVIDED AMPLE FACTUAL BASIS FOR NOT CONSIDERING THE POSSIBLE EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING AT DIABLO CANYON.

COMMISSIONER ASSELSTINE HAS THE FOLLOWING COMMENT: I DISAGREE WITH THE ASSERTION THAT "BECAUSE OF THE HIGH CONFIDENCE IN THE ABILITY OF A PLANT TO SHUTDOWN SAFELY AFTER AN SSE, THE COMMISSION BELIEVES THAT THE ONLY CIRCUMSTANCES WHICH WOULD CREATE A CHANCE OF AN ACCIDENT WHICH WOULD REQUIRE OFFSITE EMERGENCY RESPONSE WOULD BE THE EVENT OF MULTIPLE UNRELATED FAILURES OF SAFETY RELATED SYSTEMS DUE TO SOME UNDISCOVERED COMMON CAUSE FAILURE MECHANISM (SUCH AS A MAJOR DESIGN ERROR), COINCIDENT WITH A SEVERE EARTHQUAKE SUCH AS AN S²E." RATHER, I BELIEVE THERE IS SUFFICIENT UNCERTAINTY IN THE PERFORMANCE OF STRUCTURES, SYSTEMS, COMPONENTS AND OPERATORS GIVEN THE OCCURRENCE OF AN EARTHQUAKE AT OR BELOW THE SSE THAT WE CANNOT AND SHOULD NOT IGNORE THE POTENTIAL FOR AN EARTHQUAKE INITIATING AN ACCIDENT. THE PLANT MAY NOT FUNCTION AS DESIGNED. PREPARING FOR SUCH UNLIKELY EVENTS IS THE BASIC TENET BEHIND EMERGENCY PLANNING AND, THUS, THERE IS A NEED TO CONSIDER THE IMPACT OF AN EARTHQUAKE OR THE WORKABILITY OF THE EMERGENCY PLAN.

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QUESTION 3.

QUESTION 3. (B) WHAT IS THE BASIS FOR CONCLUDING THAT SUCH AN EARTHQUAKE IS SIGNIFICANTLY LESS LIKELY TO INITIATE AN ACCIDENT REQUIRING IMPLEMENTATION OF THE EMERGENCY PLAN THAN OTHER ACCIDENT INITIATORS WHICH ARE IMPLICIT IN THE IMPOSITION OF EMERGENCY PLANNING REQUIREMENTS?

ANSWER.

THE OBJECTIVE OF EMERGENCY PLANNING IS TO ASSURE SUITABLE EMERGENCY RESPONSE CAPABILITY FOR A WIDE SPECTRUM OF ACCIDENTS, IRRESPECTIVE OF ANY PARTICULAR INITIATING EVENT. THUS, NO PARTICULAR ACCIDENT IS USED FOR PLANNING PURPOSES; RATHER, POTENTIAL CONSEQUENCE SEQUENCES ARE USED TO DEVELOP AN APPROPRIATE PLANNING BASE WITHOUT REGARD FOR THE INITIATING EVENT.

THE PARTICULAR ELEMENTS OF AN ACCIDENT SEQUENCE (E.G., INITIATION OF EMERGENCY CORE COOLING, OCCURRENCE OF FIRES, ETC.) ARE CONSIDERED AS INITIATING CONDITIONS FOR VARIOUS EMERGENCY ACTION LEVELS, AS IS THE OCCURRENCE, OR PROJECTED OCCURRENCE, OF NATURAL PHENOMENA SUCH AS HURRICANES, TORNADOS, FLOODS, AND EARTHQUAKES. SEE, "CRITERIA FOR PREPARATION AND EVALUATION OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND PREPAREDNESS IN SUPPORT OF NUCLEAR POWER PLANTS" (NUREG-0654/FEMA-REP-1, REV. 1, APPENDIX 1). EARTHQUAKES UP TO THE SSE ARE INITIATING CONDITIONS FOR THE "UNUSUAL EVENT" AND "ALERT" LEVELS.

QUESTION 3.

AS DISCUSSED ABOVE, HOWEVER, THIS DESIGNATION DOES NOT IMPLY THAT THE OCCURRENCE OF SUCH AN EARTHQUAKE WOULD CAUSE AN ACCIDENT WITH OFFSITE RADIOLOGICAL IMPLICATIONS. RATHER, THESE EMERGENCY ACTION LEVELS DESIGNATE GENERAL PREPAREDNESS CONDITIONS TO ASSURE THAT, AT THE "UNUSUAL EVENT" LEVEL, THE FIRST STEP IN ANY RESPONSE LATER FOUND TO BE NECESSARY HAS BEEN CARRIED OUT AND THE OPERATING STAFF IS IN A STATE OF READINESS TO SYSTEMATICALLY HANDLE THE INFORMATION AND DECISION-MAKING ASSOCIATED WITH THE EVENT AND, AT THE "ALERT" LEVEL, THE EMERGENCY PERSONNEL ARE READILY AVAILABLE TO RESPOND IF THE SITUATION BECOMES MORE SERIOUS AND TO PROVIDE CURRENT STATUS INFORMATION TO APPROPRIATE OFFSITE AUTHORITIES. THESE FUNCTIONS ARE INTENDED TO ASSURE THAT ALL RESPONSE ORGANIZATIONS THAT COULD BE POTENTIALLY INVOLVED RECOGNIZE THE EVENTUALITIES THAT MIGHT HAVE TO BE DEALT WITH IF ANY EMERGENCY RESPONSE BECAME NECESSARY.

THE COMMISSION'S DECISION IN DIABLO CANYON DOES NOT DETRACT FROM THE FUNDAMENTAL REQUIREMENT THAT SUFFICIENT FLEXIBILITY BE PROVIDED IN THE EMERGENCY PLAN TO ACCOMMODATE A WIDE SPECTRUM OF ACCIDENTS IRRESPECTIVE OF THEIR CAUSE. THIS DECISION RECOGNIZES THAT POTENTIAL IMPEDIMENTS TO EMERGENCY RESPONSE CAUSED BY MORE FREQUENT NATURAL PHENOMENA HAVE BEEN EXPLICITLY CONSIDERED IN THE PLANNING AND THAT SUCH CONSIDERATION MAY CONTRIBUTE TO AN EFFECTIVE RESPONSE EVEN IN THE EVENT OF AN EARTHQUAKE.

QUESTION 3.

BEYOND THIS, THE COMMISSION DID NOT COMPARE THE FREQUENCY OF ACCIDENTS INITIATED BY EARTHQUAKES WITH THOSE INITIATED BY OTHER NATURAL PHENOMENA. IT IS BEYOND DISPUTE THAT THE RECORD EXTENSIVELY DEMONSTRATES THAT THE LIKELIHOOD OF AN EARTHQUAKE CAUSING A RADIOLOGICAL RELEASE IS EXTRAORDINARILY SMALL. INDEED, BOTH THE DEUKMEJIAN MAJORITY AND DISSENT FOUND THE COMMISSION WELL JUSTIFIED IN CONCLUDING THAT AN EARTHQUAKE WAS NOT LIKELY TO INITIATE A RADIOLOGICAL EMERGENCY AND THAT THE POSSIBLE EFFECTS OF SUCH AN EARTHQUAKE ON EMERGENCY PLANNING NEED NOT BE LITIGATED. SLIP OP, AT 35-36, DISSENT AT 7.

THESE ARE THE ONLY FINDINGS NECESSARY TO DETERMINE WHETHER THE POSSIBLE EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING SHOULD BE THE SUBJECT OF LITIGATION IN THE DIABLO CANYON PROCEEDING. A COMPARATIVE EVALUATION WITH THE POSSIBLE EFFECTS OF OTHER NATURAL PHENOMENA IS IRRELEVANT TO A DETERMINATION OF WHETHER THE POSSIBLE EFFECT OF EARTHQUAKES ON EMERGENCY PLANNING IS A REQUIRED SUBJECT FOR LITIGATION. MOREOVER, AS NOTED ABOVE, HAD A RECORD SIMILAR TO THAT REGARDING EARTHQUAKES BEEN DEVELOPED FOR OTHER NATURAL PHENOMENA AND HAD THE COMMISSION HAD BEFORE IT THE ISSUE OF WHETHER IT WAS MANDATORY TO LITIGATE THE POSSIBLE EFFECTS OF SUCH PHENOMENA ON EMERGENCY PLANNING THE COMMISSION MIGHT WELL HAVE CONCLUDED THAT SUCH LITIGATION WAS UNNECESSARY.

COMMISSIONER ASSELSTINE DOES NOT BELIEVE THERE IS A RATIONAL BASIS FOR CONCLUDING THAT AN SSE IS SIGNIFICANTLY LESS LIKELY TO INITIATE AN ACCIDENT REQUIRING IMPLEMENTATION OF THE EMERGENCY PLAN THAN OTHER ACCIDENT INITIATORS WHICH ARE IMPLICIT IN THE IMPOSITION OF EMERGENCY PLANNING REQUIREMENTS.

QUESTION 4. CONTROL SYSTEMS FAILURES AND PRESSURIZED THERMAL SHOCK

PLEASE DESCRIBE THE STATUS OF THE NRC STAFF'S EFFORT TO RESOLVE QUESTIONS CONCERNING THE SAFETY SIGNIFICANCE OF CONTROL SYSTEM FAILURES INCLUDING SUCH FAILURES WHICH MIGHT CAUSE PRESSURIZED THERMAL SHOCK. IN VIEW OF THE POTENTIAL SIGNIFICANCE OF THE ISSUE AND THE SUBSTANTIAL CONTROVERSY SURROUNDING IT, THIS STATUS REPORT SHOULD SPECIFY AREAS OF SUBSTANTIAL DISAGREEMENT AMONG THE STAFF WITH RESPECT TO WHAT IS KNOWN ABOUT THE PROBLEM, PROGRESS IN OBTAINING INFORMATION NECESSARY TO RESOLVE IT, AND THE AMOUNT OF TIME AND MONEY NECESSARY TO REACH A SATISFACTORY RESOLUTION. IN ADDITION, PLEASE INDICATE THE PRIORITY THE COMMISSION HAS ASSIGNED RESOLUTION OF CONTROL SYSTEM FAILURE QUESTIONS VIS-A-VIS RESOLUTION OF OTHER MAJOR SAFETY ISSUES.

ANSWER

THE STAFF IS ADDRESSING THE SAFETY SIGNIFICANCE OF CONTROL SYSTEM FAILURES AS UNRESOLVED SAFETY ISSUE (USI) A-47. THE ISSUE OF PRESSURIZED THERMAL SHOCK (PTS) IS BEING PURSUED AS USI A-49. WORK ON BOTH ISSUES HAS PROCEEDED AT THE OAK RIDGE

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QUESTION 4, (CONTINUED)

NATIONAL LABORATORY (ORNL) WITH ADDITIONAL A-47 WORK AT THE IDAHO NATIONAL ENGINEERING LABORATORY (INEL) AND COORDINATION BETWEEN THE PROGRAMS ON THESE TWO ISSUES HAS BEEN EMPHASIZED.

THE BASIC APPROACH FOR USI A-47 IS TO PERFORM EVALUATIONS OF THE SAFETY SIGNIFICANCE OF FAILURE OR MISOPERATION OF CONTROL SYSTEMS FOR FOUR ACTUAL PLANTS, AND FROM THE RESULTS TO FORMULATE GENERIC CONCLUSIONS AS TO WHETHER ADDITIONAL REVIEW CRITERIA OR REQUIREMENTS FOR CONTROL SYSTEM DESIGN ARE NECESSARY. FOUR PLANTS WERE SELECTED FOR THE STUDIES (ONE FOR EACH REACTOR DESIGNER): OCONEE (B&W), CALVERT CLIFFS (CE), BROWNS FERRY (GE) AND ROBINSON (W). THE OCONEE AND CALVERT CLIFFS STUDIES ARE BEING DONE BY ORNL UNDER RES CONTRACT. THE BROWNS FERRY AND ROBINSON STUDIES ARE BEING DONE BY INEL UNDER NRR TECHNICAL ASSISTANCE CONTRACT.

WORK ON THE BROWNS FERRY (BWR) AND THE H. B. ROBINSON (WESTINGHOUSE PWR) PLANTS AT INEL IS ESSENTIALLY COMPLETE. INEL HAS DEVELOPED SCENARIOS BASED ON CREDIBLE CONTROL SYSTEM FAILURES WHICH COULD POTENTIALLY LEAD TO OVERFILLING THE STEAM GENERATOR (PWR) OR THE REACTOR VESSEL (BWP) AND INTRODUCE WATER INTO THE STEAM LINE. SCENARIOS WERE ALSO CONSIDERED WHICH COULD LEAD TO OVERCOOLING OR OVERHEATING OF THE REACTOR COOLANT SYSTEM AND TO REACTIVITY CHANGE IN THE REACTOR. ONLY CONTROL SYSTEM FAILURE INITIATED TRANSIENTS LEADING TO OVERFILL AND OVERCOOLING WERE DETERMINED BY INEL TO BE CREDIBLE. INEL DEVELOPED PROBABILITY ESTIMATES OF THE SCENARIOS JUDGED TO BE CREDIBLE.

QUESTION 4. (CONTINUED)

THESE SCENARIOS WITH THEIR ESTIMATED PROBABILITIES HAVE BEEN PROVIDED TO THE PACIFIC NORTHWEST LABORATORIES WHERE RISK ANALYSES ARE BEING CONDUCTED.

ONE KEY ELEMENT OF BOTH THE OVERCOOLING AND OVERFILL TRANSIENTS IS THE EFFECT OF THE INTRUSION OF SUBCOOLED WATER INTO THE STEAMLINE. INEL HAS INITIATED A SUBCONTRACT WITH CREARE, INC. OF HANOVER, NEW HAMPSHIRE, TO ESTIMATE THE LIKELIHOOD OF WATER HAMMER IN STEAMLINES DUE TO THE PREDICTED OVERFILL TRANSIENTS.

AT THIS TIME ONLY PRELIMINARY RESULTS ARE AVAILABLE AND ARE UNDER REVIEW BY THE STAFF AND CONTRACTORS.

THE CONTROL SYSTEM FAILURE SCENARIOS UNDER DEVELOPMENT ON THE OCONEE (B&W) AND CALVERT CLIFFS (CE) PLANTS AT ORNL ARE NOT YET FULLY DEVELOPED. PRELIMINARY INDICATIONS ARE THAT SOME SCENARIOS ARE SIMILAR IN NATURE AND PROBABILITY OF OCCURRENCE TO THE SCENARIOS DEVELOPED BY INEL. OTHER SCENARIOS SPECIFIC TO EACH VENDOR DESIGN ARE ALSO BEING EVALUATED.

THE CURRENT SCHEDULE FOR RESOLUTION OF USI A-47 CALLS FOR ALL WORK TO BE COMPLETED BY THE END OF APRIL 1985 WITH THE PROPOSED RESOLUTION BEING ISSUED FOR PUBLIC COMMENT BY SEPTEMBER 30, 1985. ALTHOUGH THIS APPEARS TO BE AN AMBITIOUS SCHEDULE DUE TO THE AMOUNT OF REMAINING WORK, THE STAFF BELIEVES IT IS ACHIEVABLE.

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QUESTION 4. (CONTINUED)

USI A-49, PRESSURIZED THERMAL SHOCK, IS PROCEEDING ON ESSENTIALLY THE SAME SCHEDULE FOR COMPLETION AS USI A-47. HOWEVER, A FINAL RULE IS AWAITING APPROVAL FOR ISSUANCE. THE RULE PROVIDES FOR A SCREENING CRITERION BASED ON THE RT_{NDT}, A MEASURE OF THE FRACTURE RESISTANCE OF THE REACTOR VESSEL STEELS. THREE YEARS PRIOR TO REACHING THE SCREENING LIMIT, UNDER REQUIREMENTS OF THIS RULE, A UTILITY WOULD HAVE TO PERFORM PLANT-SPECIFIC ANALYSES TO IDENTIFY CORRECTIVE ACTIONS NECESSARY TO AVOID OPERATING AT UNDETERMINED, AND THEREFORE POTENTIALLY, UN-ACCEPTABLE LEVELS OF RISK ASSOCIATED WITH PTS EVENTS. IF OPERATION ABOVE THE SCREENING LIMIT IS REQUESTED. THE DEVELOPMENT OF THE SCREENING CRITERION FOR USI A-49 INVOLVED THE ANALYSIS OF POSTULATED PLANT TRANSIENTS IN PWRs WHICH COULD LEAD TO OVER-COOLING OF THE REACTOR COOLANT WITH SUBSEQUENT REPRESSURIZATION OF THE PRIMARY SYSTEM. THE A-47 STUDIES ALSO CONSIDERED TRANS-IENTS INITIATED BY OR EXACERBATED BY CONTROL SYSTEM FAILURES WHICH COULD LEAD TO OVERCOOLING OF THE PRIMARY COOLANT. IN-SIGHTS INTO POTENTIALLY SEVERE OVERCOOLING SCENARIOS UNCOVERED IN THE A-47 WORK WERE DIRECTED FOR CONSIDERATION UNDER A-49. THE REVIEW OF THE A-47 ANALYSIS IS CONTINUING AND IF FURTHER REVIEW IDENTIFIES POTENTIALLY SEVERE PTS TRANSIENTS, THEIR IMPACT ON THE A-49 RESULTS WILL BE CONSIDERED AND, IF NECESSARY, CHANGES TO THE RULE WOULD BE PROPOSED. COMMISSION ACTION ON THE RULE IS AWAITING THE OUTCOME OF OBJECTIONS RAISED BY MR. DEMETRIOS BASDEKAS. AT THE REQUEST OF THE NRC EXECUTIVE DIRECTOR OF OPERATIONS, MR. BASDEKAS PRESENTED HIS VIEWS TO THE ACRS AT A MEETING ON FEBRUARY 7, 1985. IN RESPONSE, THE ACRS STATED THAT

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QUESTION 4. (CONTINUED)

ITS REVIEW OF MR. BASDEKAS' CONCERNS SUGGESTS NO REASON FOR DELAYING ISSUANCE OF THE PROPOSED RULE.

MR. BASDEKAS, WHO IS ACTIVELY MANAGING THE ORNL WORK ON A-47, HAS STATED DISAGREEMENT WITH THE A-47 WORK SCOPE. HIS PRIMARY CONCERNS ARE THAT THE FOLLOWING SHOULD BE INCLUDED:

- (1) SEISMIC AND ENVIRONMENTAL EFFECTS ON CONTROL SYSTEM PERFORMANCE AND PLANT DYNAMICS.
- (2) SAFEGUARDS IMPLICATIONS OF CONTROL SYSTEMS WITH RESPECT TO SABOTAGE PATHS AVAILABLE TO AN "INSIDER" VIA THE TOPOLOGICAL CHARACTERISTICS OF CONTROL SYSTEM DESIGNS, INSTALLATION AND MAINTENANCE.
- (3) QUALITY OF INFORMATION AVAILABLE TO THE CONTROL ROOM OPERATOR AFFECTED BY CONTROL SYSTEM MALFUNCTIONS/ INTERACTIONS, AND OPERATOR PERFORMANCE UNDER CONDITIONS SUCH AS THOSE IN ITEM #1 ABOVE.
- (4) A DETAILED EVALUATION OF THE PLANT ELECTRICAL POWER AND OTHER AUXILIARY SYSTEMS WHICH PROVIDE VITAL SUPPORT TO THE CONTROL SYSTEMS.

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QUESTION 4. (CONTINUED)

MR. BASDENAS MAINTAINS THAT COMPLETION OF THE ABOVE MENTIONED TECHNICAL AND REGULATORY ELEMENTS ARE ESSENTIAL FOR A SATISFACTORY RESOLUTION OF USI A-47 AND A-49.

WITH RESPECT TO THE FOUR AREAS OF CONCERN NOTED ABOVE WHICH MR. BASDEKAS BELIEVES SHOULD BE PART OF THE SCOPE OF WORK FOR A-47, THE OFFICE OF NUCLEAR REGULATORY RESEARCH HAD TENTATIVELY BUDGETED FOR AN EXTENSION TO THE PROGRAM TO START IN FY 1986. HOWEVER RECENT RES BUDGET CONSTRAINTS HAVE CAUSED THIS WORK TO BE ELIMINATED FROM THE FY-86 BUDGET. THE STAFF BELIEVES THAT WORK PLANNED IN THESE FOUR AREAS WOULD GO BEYOND THE WORK NECESSARY FOR THE RESOLUTION OF A-47 AND IS BEYOND WORK SPECIFICALLY ORIENTED TOWARD LICENSING NEEDS. WHEN WORK CURRENTLY BEING ACCOMPLISHED FOR A-47 IS COMPLETED AND THE RESULTS REVIEWED, THE NEED FOR EXTENDING THE WORK TO THE AREAS SUGGESTED BY MR. BASDEKAS WILL BE CONSIDERED.

MR. BASDEKAS ALSO MAINTAINS THAT A GENERIC RESOLUTION OF A-47 CANNOT BE ACHIEVED BY THE REVIEW OF ONLY FOUR PLANTS (ONE FOR EACH NSSS VENDOR) AND THAT SUCH RESOLUTION SHOULD INCLUDE A REGULATORY REQUIREMENT FOR THE PERFORMANCE OF AN EVALUATION OF THE CONTROL SYSTEMS OF ALL OTHER NUCLEAR POWER PLANTS BY EACH LICENSEE OR APPLICANT FOR A LICENSE, PATTERNED AFTER THE METHOD OF EVALUATION DEVELOPED BY THE RES/ORNL EFFORT BASED ON A TWO-PHASE FAILURE MODES AND EFFECTS ANALYSIS. THE STAFF ACKNOWLEDGES THAT A RECOMMENDATION TO REQUIRE SUCH EVALUATIONS OF ALL PLANTS IS A POSSIBLE OUTCOME OF THE A-47 STUDY, BUT THAT

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QUESTION 4. (CONTINUED)

THE NEED FOR SUCH A REQUIREMENT WOULD HAVE TO BE DETERMINED BY THE STUDY.

THE FUNDING FOR THE NRR AND RES PROGRAMS REQUIRED FOR RESOLUTION OF A-47 IS PROJECTED AS FOLLOWS:

	DOLLARS IN THOUSANDS				
	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>	<u>FY 1985</u>
NRR	--	73	697	576	93
RES	400	950	1250	1600	1450

WITH REGARD TO THE PRIORITY ASSIGNED TO THE RESOLUTION OF USI A-47, THE DESIGNATION OF A GENERIC SAFETY ISSUE AS A USI ENSURES THAT IT RECEIVES PRIORITY TREATMENT. IN ADDITION, THE COMMISSION HAS DIRECTED THE STAFF TO COMPLETE, TO THE EXTENT PRACTICAL, THE DRAFT TECHNICAL RESOLUTION OF ALL CURRENT USIS AND ISSUE THEM FOR PUBLIC COMMENT BY THE END OF FY-85. THE STAFF IS EXPEDITING THE COMPLETION OF ALL REMAINING WORK TO MEET THIS DEADLINE.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING: THE ABOVE IS A STAFF PREPARED RESPONSE. WITH REGARD TO THE BREADTH AND DEPTH OF THE ABOVE ANALYSES, I BELIEVE SUFFICIENT RESOURCES SHOULD BE ALLOCATED TO RESOLVING USI'S IN A MANNER THAT ENSURES A HIGH DEGREE OF CONFIDENCE THAT THE SAFETY VULNERABILITIES ARE IN FACT UNDERSTOOD AND, AS APPROPRIATE, CORRECTED. AT THIS POINT, I AM NOT CONVINCED THAT "BUDGET CONSTRAINTS" SHOULD IMPEDE THE EXTENSION OF THE PROGRAM INTO FY 1986.

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QUESTION 5.RESEARCH

PLEASE ENUMERATE CHANGES IN REGULATORY REQUIREMENTS, PUT INTO EFFECT IN FY 1984, THAT HAVE RESULTED FROM NRC-SPONSORED RESEARCH. DESCRIBE THE RELATIONSHIP OF THE CURRENT NRC RESEARCH PROGRAM TO REGULATORY REQUIREMENTS.

ANSWER.

THE NRC STRUCTURE FOR REGULATORY REQUIREMENTS ENCOMPASSES A WIDE SPECTRUM OF ACTIVITIES TO MAKE REGULATION OF CIVILIAN NUCLEAR POWER MORE EFFICIENT AND EFFECTIVE. THIS IS ACCOMPLISHED BY THE ISSUANCE OF RULES, ORDERS, BULLETINS, NOTICES, TECH SPECS, LICENSE CONDITIONS AND LICENSING CRITERIA, ETC. ACCEPTABLE IMPLEMENTATION GUIDANCE FOR SUPPORT OF THIS STRUCTURE IS DERIVED FROM NRC GUIDES, INFORMATION NOTICES, NATIONAL STANDARDS AND A MULTITUDE OF NRC POLICY STATEMENTS, DIRECTIVES AND RISK ASSESSMENT METHODOLOGIES. A FRAMEWORK FOR PLANNING RESEARCH RELEVANT TO CURRENT REGULATORY REQUIREMENTS OR FUTURE NEEDS IS PROVIDED IN THE OFFICE OF RESEARCH'S LONG RANGE RESEARCH PLAN. THIS DOCUMENT WAS DEVELOPED IN ACCORDANCE WITH COMMISSION POLICY AND PLANNING GUIDANCE. THE LONG RANGE RESEARCH PLAN ALSO INCLUDES AN APPENDIX WHICH IDENTIFIES RESULTS OBTAINED FROM THE RESEARCH PROGRAM IMPLEMENTED IN FY 84.

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QUESTION 5. (CONTINUED)

THE NUCLEAR REGULATORY RESEARCH PROGRAM IS AN INTEGRAL PART OF THE REGULATORY PROCESS AND IS USED TO DEVELOP SAFETY INFORMATION BASES AND ANALYTICAL METHODS TO SUPPORT THESE RULEMAKING ACTIVITIES AND POLICY DETERMINATIONS. THE NRC RESEARCH PROGRAM HAS FIVE MAJOR COMPONENTS:

- A. THE REACTOR ENGINEERING PROGRAM INVOLVES ASSESSMENT OF NUCLEAR POWER PLANTS STRUCTURES AND COMPONENTS TO PERFORM THEIR INTENDED FUNCTIONS. EXAMPLES OF CHANGES IN REGULATORY REQUIREMENTS AND SUPPORTING GUIDANCE ACCOMPLISHED IN FY 84 ARE: (1) REVISION OF REGULATORY GUIDE 1.89 ON ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY TO TAKE POTENTIALLY ADVERSE SYNERGISTIC EFFECTS INTO ACCOUNT; (2) ISSUANCE OF AN IE INFORMATION NOTICE REGARDING ENVIRONMENTAL QUALIFICATION TESTS OF ELECTRICAL TERMINAL BLOCKS; (3) A CHANGED LICENSING POSITION REGARDING PIPE DAMPING VALUES THAT PERMITS USE OF FEWER PIPE SUPPORTS; (4) ISSUANCE OF LICENSING CRITERIA REGARDING MULTIPLE INDEPENDENT PIPE SUPPORT MOTION; (5) PIPING RESEARCH PROVIDED PART OF THE BASIS FOR THE COMMISSION'S LICENSING DECISIONS ON BWR PIPE CRACKS THAT ALLOWED CONTINUED OPERATION OF SEVERAL REACTORS IN WHICH CRACKED PIPES WERE FOUND; AND (6) SEISMIC AND PIPING RESEARCH PROVIDED THE BASIS FOR DECISIONS THAT ACCIDENTS RESULTING IN A DOUBLE ENDED GUILLOTINE PIPE BREAK WERE HIGHLY UNLIKELY AND THAT AS A RESULT CERTAIN PIPE WHIP RESTRAINTS COULD BE

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QUESTION 5. (CONTINUED)

REMOVED, WHICH SIMPLIFIES INSPECTIONS AND REDUCES RADIATION DOSE TO PLANT PERSONNEL.

FUTURE RESEARCH IN THIS PROGRAM AREA AFFECTING FUTURE CHANGES TO REGULATORY REQUIREMENTS INCLUDE: (1) CONTINUED SEISMIC RESEARCH TO PROVIDE ADDITIONAL INFORMATION REGARDING SAFETY MARGINS ASSOCIATED WITH EARTHQUAKE LOADS INCLUDING LOADS BEYOND DESIGN CONDITIONS; (2) AGING AND DETERIORATION RESEARCH NEEDED TO IDENTIFY EFFECTS OF AGING AND SERVICE WEAR ON STRUCTURES AND COMPONENTS AND THEIR EFFECT ON PLANT SAFETY; (3) ASSESSMENT OF THE ABILITY OF OPERATING PLANTS TO MEET GENERAL DESIGN CRITERIA 31, 10 CFR PART 50, APPENDIX A WHICH REQUIRES PRESSURE VESSELS WILL NOT FAIL BY BRITTLE FRACTURE DURING SERVICE; AND (4) STUDIES ON METHODS FOR NON-DESTRUCTIVE EXAMINATION OF STEAM GENERATOR TUBES TO CORRELATE IN-SERVICE INSPECTION RESULTS WITH REMAINING TUBE INTEGRITY THEREBY INCREASING ASSURANCE THAT MULTIPLE TUBE RUPTURES WILL NOT OCCUR.

- B. REACTOR OPERATIONS AND RISK PROGRAM ADDRESSES (1) RELIABILITY AND RISK METHODOLOGY, (2) DATA BASE DEVELOPMENT; (3) REGULATORY AND INSPECTION APPLICATIONS; AND (4) SEVERE ACCIDENT RISK. AMONG ITS MANY RESPONSIBILITIES ARE INCLUDED RESPONSIBILITY FOR THE TECHNICAL SUPPORT FOR DRAFTING AND ISSUING MORE THAN 50% OF THE AGENCY'S RULEMAKING, AND RESPONSIBILITY FOR THE INDEPENDENT REVIEW AND EVALUATION OF

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QUESTION 5. (CONTINUED)

RULES FOR WHICH OTHER ORGANIZATIONS OF THE COMMISSION HAVE RESPONSIBILITY.

EXAMPLES OF CHANGES IN REGULATORY REQUIREMENTS AND SUPPORTING GUIDANCE ACCOMPLISHED IN FY 84 WERE: (1) ISSUANCE OF A RULE AND GUIDANCE ADDRESSING ANTICIPATED TRANSIENTS WITHOUT SCRAM, (2) ISSUANCE OF A FINAL RULE REQUIRING HYDROGEN CONTROL SYSTEMS FOR MARK III BWR'S AND ICE CONDENSER PWR'S, (3) PUBLICATION OF GUIDELINES FOR VALUE-IMPACT ANALYSIS (NUREG-/CR-3568) FOR USE AGENCY-WIDE TO PROVIDE COST-BENEFIT INFORMATION IN SUPPORT OF MAJOR REGULATORY ACTIONS, (4) PUBLICATION OF A PROBABILISTIC RISK ASSESSMENT REFERENCE DOCUMENT (NUREG-1050) TO PROVIDE A TECHNICALLY-JUSTIFIED PERSPECTIVE FOR THE APPLICATION OF RISK ANALYSIS IN REGULATING THE NUCLEAR INDUSTRY, (5) PUBLICATION OF ANALYSIS OF PRECURSOR DATA OBTAINED FROM LICENSEE EVENT REPORTS GENERATED IN 1980 AND 1981 TO PROVIDE A RISK PERSPECTIVE ON ACTUAL OPERATING EVENTS TO ASSIST THE REGULATORY STAFF IN THE REVIEW OF PRAs SUBMITTED BY LICENSEES AND TO PERMIT EVALUATION OF THE OCCURRENCES FOR APPROPRIATE REGULATORY ACTIONS, AND (6) PERFORMANCE OF PRA-TYPE ANALYSES TO SUPPORT THE TECHNICAL RESOLUTION OF NUMEROUS UNRESOLVED SAFETY ISSUES, INCLUDING (A) A-30, ADEQUACY OF SAFETY RELATED DC POWER SUPPLIES, (B) A-44, STATION BLACKOUT, (C) A-45, SHUTDOWN DECAY HEAT REMOVAL REQUIREMENTS, AND (D) A-47, SAFETY DUPLICATION OF CONTROL SYSTEMS.

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QUESTION 5. (CONTINUED)

FUTURE RESEARCH IN THIS PROGRAM AREA AFFECTING POSSIBLE CHANGES TO REGULATORY REQUIREMENTS AND SUPPORTING GUIDANCE INCLUDE: (1) EMERGENCY PLANNING RESULTING FROM NEW SOURCE TERM INFORMATION, (2) TECHNICAL SUPPORT FOR DETERMINATION OF THE NEED FOR ENGINEERING FEATURES TO MITIGATE SEVERE ACCIDENTS IN NEW PLANTS AS RELATED TO THE SEVERE ACCIDENT POLICY STATEMENT, (3) PREPARATION OF A HYDROGEN RULE FOR LARGE, DRY CONTAINMENTS, (4) TECHNOLOGICAL SUPPORT FOR RELATING EXISTING TRANSPORTATION RULES TO ACTUAL TRANSPORTATION ACCIDENTS, (5) TECHNICAL ASSISTANCE FOR THE PERFORMANCE OF VALUE-IMPACT ANALYSIS ON MAJOR AGENCY RULES USING ACCEPTED AGENCY PROCEDURES, (6) RECONSIDERATION OF SITING POLICY, (7) PREPARATION OF A RULE FOR EMERGENCY PREPAREDNESS FOR FUEL CYCLE AND OTHER RADIOACTIVE MATERIAL LICENSES, AND (8) COMPLETION OF THE RISK METHODOLOGY INTEGRATION AND EVALUATION PROGRAM WHICH WILL HELP DEVELOP AND CODIFY STATE-OF-THE-ART REFERENCE METHODS TO BE USED TO EVALUATE SAFETY GOAL APPLICATIONS, SUPPORT GENERIC RULEMAKING USING PROBABILISTIC ANALYSES AS ONE FACT TO BE CONSIDERED, AND EVALUATE THE ADEQUACY OF PRA'S SUBMITTED BY LICENSEES, AS REQUIRED BY THE LICENSING PROCESS.

- C. THE ACCIDENT-EVALUATION PROGRAM FOCUSES ON DAMAGED FUEL, CONTAINMENT LOADING AND FISSION PRODUCT SOURCE-TERM. EXAMPLES OF CHANGES IN REGULATORY REQUIREMENTS ACCOMPLISHED IN FY 84 INCLUDE: (1) PROVIDING SUPPORT FOR AMENDING SOURCE-TERM RELATED RULES, (2) TECHNICAL SUPPORT FOR THE COMMISSION'S

QUESTION 5. (CONTINUED)

POLICY ON SEVERE ACCIDENTS, (3) DEVELOPMENT OF A COMMISSION POLICY STATEMENT ON ADVANCED REACTORS, AND (4) TECHNICAL SUPPORT FOR REEVALUATION OF EMERGENCY PLANNING AND SITING CRITERIA.

LARGE TECHNICAL UNCERTAINTIES LIMIT CURRENT ABILITY TO ESTIMATE THE CONSEQUENCES OF A CORE MELT ACCIDENT. FUTURE RESEARCH IN THESE AREAS WOULD CONTINUE TO ATTEMPT TO REDUCE THESE UNCERTAINTIES. THEREFORE, RESEARCH WILL BE CARRIED ON TO INTEGRATE NEW DATA AND MODELS INTO COMPLETE ANALYTICAL DESCRIPTIONS OF SEVERE ACCIDENTS AND EXPERIMENTS TO TEST THE ADEQUACY OF THE ANALYTICAL METHODS WITH RESPECT TO PREDICTING ACCIDENT CONSEQUENCES. RESEARCH ON DAMAGED FUEL WILL PROVIDE CHARACTERIZATION OF THE REACTOR CORE DURING CORE-MELT AND THE THREAT TO THE CONTAINMENT INTEGRITY. ASSESSMENT OF CONTAINMENT PERFORMANCE IS IMPORTANT TO CONSEQUENCE ANALYSIS, SINCE A DELAY IN CONTAINMENT FAILURE IS EXPECTED TO GREATLY REDUCE THE IMPACT ON PUBLIC HEALTH.

- D. THE THERMAL HYDRAULIC TRANSIENTS PROGRAM PROVIDES SCIENTIFIC VERIFICATION AND COMPUTER CODES FOR USE IN EVALUATING NUCLEAR POWER PLANT-SAFETY RESPONSE TO A WIDE RANGE OF POSSIBLE TRANSIENTS AND ACCIDENTS. EXAMPLES OF CHANGES IN REGULATORY REQUIREMENTS ACCOMPLISHED IN FY 84 INCLUDE: (1) THE CONDUCTED APPROPRIATE EXPERIMENTAL AND ANALYTICAL PROGRAMS ON THE THERMAL AND HYDRAULIC ASPECTS OF HYDROGEN COMBUSTION TO

QUESTION 5. (CONTINUED)

SUPPORT THE HYDROGEN RULEMAKING ACTIVITY; (2) THE DEVELOPMENT OF DATA TO OBTAIN BASIC KNOWLEDGE OF THE THERMAL-HYDRAULIC BEHAVIOR UNDER CONDITIONS OF AN ANTICIPATED TRANSIENT WITHOUT A SCRAM TO SUPPORT THE RULE PROMULGATED IN 1984; (3) THE DEVELOPMENT REVISED REGULATORY METHODS FOR ECCS ANALYSIS (10 CFR PART 50, APPENDIX K) USING RESEARCH THAT DETERMINES SOURCES OF HEAT DURING LOCA, PREDICTS CLAD SWELLING AND RUPTURE FROM AXIAL TEMPERATURE DISTRIBUTION AND CHANGES IN PRESSURE WITHIN THE CLADDING, ANALYZES LOAD CHARACTERISTICS OF AND FLOW FROM DOUBLE ENDED PIPE BREAKS, AND ANALYZES THE SINGLE FAILURE CRITERION FOR DIFFERENT FAILURE MODES OF ECCS EQUIPMENT; (4) TECHNICAL RESOLUTION OF THE ABILITY TO COOL THE CORE IN CERTAIN PRESSURIZED WATER REACTORS BY NATURAL CONVECTION; (5) COMPUTER CODES WHICH FORM THE BASIS FOR DEVELOPMENT OF A NUCLEAR PLANT ANALYZER, WHICH WILL BE OPERATIONAL BY 1986 FOR INVESTIGATING SAFETY PROBLEMS IN OPERATING REACTORS.

FUTURE RESEARCH IN THIS PROGRAM WILL ADDRESS POST-BLOWDOWN PHENOMENA. TESTS WILL BE PERFORMED IN THE UPPER PLENUM TEST FACILITY IN WEST GERMANY, WITH NRC COOPERATION, TO DETERMINE IN FULL SCALE THE FALL BACK OF WATER DROPLETS INTO THE CORE WHICH MAY PROVIDE SUFFICIENT COOLING DURING THE POST BLOW-DOWN STAGE TO PREVENT FUEL DAMAGE. THIS DATA WILL ALLOW RELAXATION OF POST BLOW-DOWN MODELS REQUIRED BY 10 CFR APPENDIX K. FURTHER RESEARCH WILL FOCUS ON THE MAINTENANCE

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QUESTION 5. (CONTINUED)

OF BASIC ANALYTICAL TOOLS NEEDED TO EVALUATE AND APPROVE LICENSING CHANGES RELATIVE TO THERMAL-HYDRAULIC PERFORMANCE OF NUCLEAR PLANTS.

- E. THE WASTE MANAGEMENT, EARTH SCIENCES AND HEALTH PROGRAM DEVELOPS INFORMATION USED TO EVALUATE WASTE DISPOSAL FACILITIES, ENVIRONMENTAL IMPACTS, AND HEALTH RISKS FROM RADIATION EXPOSURE. WASTE RESEARCH WILL FOCUS ON THE ESTABLISHMENT OF ACCEPTABLE DATA COLLECTION AND ANALYSIS METHODS FOR SITE SUITABILITY EVALUATION, DETERMINATION OF PERFORMANCE ENVELOPES FOR CANDIDATE WASTE PACKAGE DESIGN, AND THE NEED TO ESTABLISH THERMALLY-INDUCED PERTURBATIONS IN REPOSITORY ENVIRONMENTS TO HAVE CONFIDENCE IN EXPECTED REPOSITORY PERFORMANCE.

EXAMPLES OF CHANGES IN REGULATORY REQUIREMENTS IN FY 84 INCLUDE:

- (1) DRAFT REGULATORY GUIDE OP 032-5, "TEST AND CALIBRATION OF RADIATION PROTECTION INSTRUMENTATION," PROVIDES TECHNICAL PROCEDURES, PRACTICES AND CRITERIA ACCEPTABLE TO THE NRC STAFF.
- (2) DRAFT REGULATORY GUIDE OP 212-4, "RADIATION PROTECTION TRAINING FOR PERSONNEL EMPLOYED IN

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QUESTION 5. (CONTINUED)

MEDICAL FACILITIES," PROVIDES COURSE CONTENT,
INSTRUCTION DURATION AND FREQUENCY ACCEPTABLE TO
- THE NRC STAFF.

FUTURE RESEARCH IN THIS PROGRAM AREA AFFECTING REGULATORY REQUIREMENTS AND SUPPORTING GUIDANCE INCLUDE: (1) ISSUANCE OF A TECHNICAL RATIONALE TO PROVIDE THE REGULATORY BASIS FOR UNSATURATED ZONE CRITERIA FOR 10 CFR PART 60, (2) ISSUANCE OF A DRAFT REGULATORY GUIDE DEALING WITH METEOROLOGICAL MEASUREMENT PROGRAMS FOR URANIUM RECOVERY FACILITIES, (3) DEVELOPMENT OF INFORMATION ON VAPOR PHASE TRANSPORT IN THE UNSATURATED ZONE FOR HLW REPOSITORIES, (4) MODIFICATION OF NRC'S MODEL TO ESTIMATE HEALTH CONSEQUENCES RESULTING FROM LARGE RELEASES OF RADIOACTIVE MATERIALS, (5) LLW RESEARCH RELATED TO THE REGULATORY REQUIREMENTS OF 10 CFR 61.56 FOR WASTE CHARACTERISTICS, (6) LLW RESEARCH RELATED TO THE PERFORMANCE ANALYSIS REQUIRED UNDER THE PROVISION OF 10 CFR 61.41, (7) DEVELOPMENT OF THE TECHNICAL BASES FOR REGULATORY GUIDANCE ON LLW WASTE, TO SUPPORT AND LLW WASTE CLASSIFICATION, (8) HLW RESEARCH RELATED TO PERFORMANCE OBJECTIVES OF 10 CFR 60, (9) HLW RESEARCH RELATED TO THE DESIGN CRITERIA FOR GEOLOGIC REPOSITORY OPERATIONS AREA (10 CFR 60.130), (10) HLW RESEARCH RELATED TO THE DEVELOPMENT OF NRC REGULATORY GUIDANCE ON THE PROVISIONS OF 10 CFR 60.21, (11) HLW RESEARCH RELATED TO THE NRC REVIEW OF SITE CHARACTERIZATION PLANS SUBMITTED BY DOE IN ACCORDANCE WITH THE PROVISIONS BOTH OF THE NUCLEAR WASTE POLICY ACT OF 1982 AND 10 CFR PART 60, AND (12) RADIATION PROTECTION RESEARCH WILL RESULT IN THE DEVELOPMENT OF REGULATORY GUIDES IN THE AREAS OF BIOASSAY AT URANIUM MILLS, PRENATAL PROTECTION FROM RADIATION, AND CALIBRATION OF HEALTH PHYSICS SURVEY INSTRUMENTS.

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QUESTION 6.

(A) DESCRIBE ACTIVITIES AT THE COMMISSION REFLECTING THE CONTINUING CHANGE IN THE AGENCY'S WORKLOAD FROM EMPHASIS ON LICENSING OF NUCLEAR PLANTS TO REGULATION OF OPERATING FACILITIES AND DECOMMISSIONING. WHAT WILL BE THE ROLE OF THE OFFICE OF NUCLEAR REACTOR REGULATION AS REACTOR LICENSING FUNCTIONS ARE CURTAILED?

ANSWER.

THERE ARE PRIMARILY TWO AREAS IN WHICH THE AGENCY MAY NEED TO CHANGE IF WE ASSUME NO NEW CP APPLICATIONS. FIRST, THE SKILLS AND EXPERTISE THAT THE AGENCY NEEDS WOULD CHANGE FROM THOSE THAT ARE REQUIRED TO REVIEW APPLICATIONS TO THOSE THAT ARE REQUIRED TO ANALYZE OPERATIONAL PROBLEMS. THE SKILLS AND EXPERTISE NECESSARY TO REVIEW PLANT DESIGNS AND ENVIRONMENTAL CONCERNS WILL DECLINE AND THE NEED FOR PEOPLE TO REVIEW LICENSING ACTIONS AND PROVIDE OTHER FORMS OF OPERATIONAL EXPERTISE WOULD INCREASE. THIS CHANGE IS STARTING TO OCCUR NOW AND WILL CONTINUE AS WE LICENSE MORE OF THE 37 PLANTS WITH CONSTRUCTION PERMITS. THE COMMISSION INTENDS IN THE NEAR FUTURE TO DISCUSS WITH THE EDO PLANS TO PROPERLY MANAGE THIS SITUATION.

AS THE INITIAL LICENSING FOR POWER OPERATIONS OF REACTORS DECREASES, NRR WILL MAINTAIN ITS ACTIVITIES FOR OPERATING REACTORS, OPERATOR LICENSING, AND SAFETY TECHNOLOGY, WITH ITS

QUESTION 6. (CONTINUED)

WORKLOAD FOR OPERATING REACTORS AND OPERATOR LICENSING EXPANDING AS THE RESULT OF THE INCREASING NUMBER OF LICENSED REACTORS.

THE NUMBER OF LICENSING ACTIONS NECESSARY TO CORRECT INADEQUACIES IN PLANT DESIGN AND OPERATION THAT ARE IDENTIFIED FROM OPERATING EXPERIENCE, UNANTICIPATED EVENTS, AND RESOLVED GENERIC ISSUES ARE PROJECTED TO INCREASE BY 30 PERCENT OVER FY 1985.

NRR WILL CONTINUE TO ADMINISTER REPLACEMENT AND REQUALIFICATION EXAMINATIONS TO REACTOR OPERATORS AT THE INCREASING NUMBER OF PLANTS TO ENSURE THAT POWER PLANTS ARE STAFFED WITH QUALIFIED OPERATORS AND TO VERIFY THEIR CONTINUED PROFICIENCY.

DURING FY 1986, WE WILL CONTINUE OUR EFFORTS TO RESOLVE IMPORTANT SAFETY ISSUES. THIS INCLUDES UNRESOLVED SAFETY ISSUES (USIs) AND HIGH-PRIORITY GENERIC SAFETY AND HUMAN FACTORS ISSUES. WE PLAN TO BEGIN IMPLEMENTATION OF THE SEVERE ACCIDENT POLICY STATEMENT BEING REVIEWED BY THE COMMISSION AS WELL AS REGULATORY CHANGES WHICH MIGHT RESULT FROM REASSESSMENT OF RADIOACTIVE SOURCE TERMS AND SAFETY GOALS. THESE EFFORTS WILL ENHANCE NRC'S FUTURE REGULATORY ACTIONS AND PROVIDE AN IMPROVED FRAMEWORK FOR IMPOSING REGULATORY REQUIREMENTS.

COMMISSIONER ASSELSTINE ADDS: I BELIEVE THE COMMISSION SHOULD GIVE GREATER ATTENTION TO YOUR QUESTION THAN THAT REFLECTED ABOVE. IN MY JUDGMENT, THE AGENCY SHOULD BE PAYING MUCH MORE ATTENTION TO

QUESTION 6. (CONTINUED)

THE PROBLEMS AT OPERATING REACTORS. WE MUST LEARN AND ACT ON THE LESSONS OF OPERATING EXPERIENCE, MAINTENANCE PROBLEMS AND MANAGEMENT PROBLEMS BEFORE THESE PROBLEMS ARE REFLECTED IN A VERY SERIOUS OPERATING EVENT OR ANOTHER ACCIDENT. WE MUST GET AWAY FROM THE REACTIVE MODE OF REGULATION AND BECOME MORE PROACTIVE THROUGH AGGRESSIVE AND IMAGINATIVE SAFETY STUDIES AND RESEARCH. UNFORTUNATELY, THERE IS LITTLE INTEREST ON THE COMMISSION IN DEVELOPING A MORE POSITIVE APPROACH TO SAFETY REGULATION. RATHER, THE REAL MEANING BEHIND IMPLEMENTING THE SEVERE ACCIDENT POLICY STATEMENT, THE SAFETY GOAL, AND THE SOURCE TERM IS TO WAIT UNTIL A "DEMONSTRABLE" PROBLEM ARISES AND ONLY THEN CONSIDER THE NEED FOR FURTHER SAFETY IMPROVEMENTS.

QUESTION 6.

(B) ARE THERE AREAS IN WHICH ACTIVITIES OF NRC'S OFFICE OF OPERATING REACTORS AND THE OFFICE OF INSPECTION AND ENFORCEMENT NOW OVERLAP? HOW ARE THE RESPECTIVE ROLES OF THESE GROUPS DISTINGUISHED?

ANSWER.

PROCEDURES ARE IN PLACE WHICH MINIMIZE THE DEGREE OF OVERLAP OF THE ACTIVITIES OF THESE GROUPS. HOWEVER, IN ACTUAL PRACTICE SOME SMALL AMOUNT OF OVERLAP DOES OCCUR. THE COMMISSION RECOGNIZES THIS, AND IS ALWAYS STRIVING TO STREAMLINE THE SYSTEMS TO FURTHER MINIMIZE ANY SUCH OVERLAP. THE RESPONSIBILITIES OF THE OFFICE OF NUCLEAR REACTOR REGULATION (NRR), INCLUDING REGULATION OF OPERATING REACTORS, AND THE OFFICE OF INSPECTION AND ENFORCEMENT (IE) ARE DEFINED IN THEIR RESPECTIVE CHARTERS AND IN AGENCY DIRECTIVES TO THE VARIOUS OFFICES. THE RESPONSIBILITIES AND ROLES OF THE OFFICES DO NOT OVERLAP. THERE ARE CONCERNS AND RESULTING ACTIVITIES, HOWEVER, THAT ARE SHARED AMONG THE OFFICES.

RELATING TO OPERATING REACTORS, NRR IS RESPONSIBLE FOR REVIEWING PROPOSED CHANGES TO PLANT DESIGN OR OPERATIONS, AND THE LICENSING AND REQUALIFICATION OF OPERATORS AT NUCLEAR POWER PLANTS. IE IS RESPONSIBLE FOR OPERATING REACTORS INSPECTIONS, EMERGENCY PREPAREDNESS, AND ENFORCEMENT.

SEVERAL NRC OFFICES HAVE MUTUAL RESPONSIBILITIES FOR EVALUATIONS OF UNANTICIPATED EVENTS THAT OCCUR AT OPERATING NUCLEAR POWER PLANTS; HOWEVER, DUPLICATION OF EFFORT IS AVOIDED PROCEDURALLY. NRR IS RESPONSIBLE FOR COORDINATING AGENCY RESPONSE TO INCIDENTS. EACH DAY, NRR AND IE HOLD A CONFERENCE CALL TO REVIEW UNANTICIPATED EVENTS AND DETERMINE THE RESPONSIBILITY FOR RESPONDING TO THE EVENT; INDIVIDUAL ASSIGNMENTS TO OFFICES PRECLUDE DUPLICATION/OVERLAP. IF THE EVENT IS COMPLEX AND WILL REQUIRE SIGNIFICANT EFFORT, A TASK INTERFACE AGREEMENT IS PREPARED THAT ASSIGNS SPECIFIC RESPONSIBILITIES TO EACH ORGANIZATION INVOLVED.

IN-DEPTH, LONG-TERM EVALUATION OF EVENTS FOR PATTERNS OR TRENDS ARE PERFORMED BY AEOD. OTHER OFFICES MAY CONTRIBUTE EXPERTISE TO AEOD ON LONG-TERM STUDIES, BUT THEY DO NOT PERFORM SUCH STUDIES. NRR REVIEWS EVENTS FROM THE STANDPOINT OF SAFETY SIGNIFICANCE ON THE PARTICULAR PLANT AND DETERMINES THE NEED FOR LICENSING ACTIONS ON THAT PLANT OR THE NEED TO ISSUE A GENERIC LETTER TO A CLASS OF PLANTS REQUESTING A LICENSING ACTION RESPONSE. IE REVIEWS THE INCIDENTS TO DETERMINE THE NEED TO PREPARE A BULLETIN OR AN INFORMATION NOTICE TO POTENTIALLY-AFFECTED PLANTS.

QUESTION 7. WHAT IS THE STATUS OF EFFORTS TO ACHIEVE BUILDING CONSOLIDATION?

ANSWER.

GSA HAS SUBMITTED A PROSPECTUS TO OMB FOR REVIEW, ADVERTISED FOR EXPRESSIONS OF INTEREST FROM THE REAL ESTATE MARKET, REVIEWED POSSIBLE OPTIONS AND PRESENTED POTENTIAL SITES TO NRC. THE COMMISSION IS SCHEDULED TO MEET WITH SENIOR GSA STAFF ON FEBRUARY 28, 1985 TO DISCUSS SITES AND NEXT STEPS.

NEXT STEPS:

- O FOLLOWING OMB REVIEW, GSA MUST SUBMIT ITS PROSPECTUS FOR CONGRESSIONAL APPROVAL (TARGET DATE: MARCH, 1985).
- O CONCURRENTLY, GSA ISSUES A SOLICITATION FOR OFFERS TO INTERESTED DEVELOPERS AND PRESENTS BEST OFFERS TO NRC FOR COMMENTS (TARGET DATE: MARCH, 1985).
- O GSA NEGOTIATES AND, UPON CONGRESSIONAL APPROVAL OF THE PROSPECTUS, AWARDS A LEASE CONTRACT.

QUESTION 8. PLEASE DESCRIBE ALL CHANGES IN THE HEARING PROCESS OR OTHER PROCEDURES FOR REACTOR LICENSING OR LICENSE MODIFICATION NOW PROPOSED OR UNDER CONSIDERATION BY THE COMMISSION OR THE STAFF, INCLUDING, BUT NOT LIMITED TO, THE COMMISSION'S LICENSING REFORM LEGISLATION PROPOSAL.

ANSWER

A. ON FEBRUARY 15, 1985, THE COMMISSION SUBMITTED DRAFT LEGISLATION TO THE CONGRESS TO ESTABLISH PROCEDURES FOR LICENSING STANDARDIZED NUCLEAR POWER PLANTS. THE LEGISLATION IS SIMILAR TO THE PROPOSAL SUBMITTED TO CONGRESS IN 1983. THE KEY ELEMENTS OF THE PROPOSAL CONCERNS PRE-APPROVED SITES, STANDARDIZED DESIGNS, AND THE AVAILABILITY OF A COMBINED CONSTRUCTION PERMIT AND OPERATING LICENSE. THE COMMISSION DECIDED NOT TO INCLUDE REVISIONS OF THE HEARING PROCESS IN THE 1985 PROPOSAL. THIS DECISION REQUIRED REDRAFTING OTHER PROVISIONS OF THE 1983 PROPOSAL THAT REFERRED TO THE REVISED HEARING PROCESS.

COMMISSIONER ASSELSTINE HAS THE FOLLOWING COMMENT: CONTRARY TO THE COMMISSION'S ASSERTIONS, THIS LICENSING REFORM PROPOSAL CONSTITUTES A RADICAL DEPARTURE FROM THE LEGISLATIVE PROPOSAL SUBMITTED BY THE COMMISSION DURING THE LAST CONGRESS. THE COMBINED CONSTRUCTION PERMIT AND OPERATING LICENSE PROVISION IN THIS LEGISLATIVE PROPOSAL WOULD ALLOW A PLANT TO GO INTO OPERATION

QUESTION 8, (CONTINUED)

WITHOUT A COMMISSION REVIEW OF THE ADEQUACY OF ITS CONSTRUCTION, ITS READINESS FOR OPERATION, OR OF THE EMERGENCY PLANNING REQUIREMENTS. MOREOVER, THE BILL SETS SUCH A HIGH THRESHOLD FOR OBTAINING A HEARING ON THESE ISSUES THAT THE PUBLIC WILL BE EFFECTIVELY DENIED AN OPPORTUNITY TO BE HEARD ON THE MATTERS WHICH ARE OF GREATEST CONCERN TO THE POPULATION IN THE VICINITY OF THE PLANT. FOR THESE REASONS, I CANNOT RECOMMEND THAT THE CONGRESS ENACT THE BILL PROPOSED BY THE COMMISSION.

B. THE COMMISSION HAS REQUESTED THE STAFF TO PREPARE RULEMAKING PROPOSALS FOR THE FOLLOWING ADMINISTRATIVE CHANGES TO THE HEARING PROCESS:

1. ADMISSION OF CONTENTIONS

THIS PROPOSAL WOULD RAISE THE THRESHOLD FOR LITIGATION OF CONTENTIONS BY REQUIRING A PARTY TO DEMONSTRATE THAT A GENUINE DISPUTE EXISTS WITH THE APPLICANT ON AN ISSUE OF LAW, FACT, OR POLICY. THE COMMISSION MUST STILL DECIDE WHEN THE HIGHER THRESHOLD FOR CONTENTION WOULD APPLY.

2. CROSS EXAMINATION PLANS

IN AN ATTEMPT TO IMPROVE THE UTILIZATION OF CROSS-EXAMINATION IN HEARINGS, A RULE IS BEING PREPARED WHICH WOULD REQUIRE THE SUBMISSION OF CROSS-EXAMINATION PLANS TO THE PRESIDING OFFICER.

QUESTION 8. (CONTINUED)3. RESTRICT DISCOVERY AGAINST THE STAFF

THIS PROPOSAL WOULD LIMIT DISCOVERY AGAINST THE STAFF IN ACCORDANCE WITH PRESENT AGENCY PRACTICE.

4. SUMMARY DISPOSITION

THE PROPOSAL WOULD PERMIT THE FILING OF MOTIONS FOR SUMMARY DISPOSITION OF A PARTICULAR FACT ISSUE AT ANY TIME DURING A PROCEEDING WHETHER OR NOT A HEARING HAS COMMENCED. UNDER THE PROPOSAL, THE ULTIMATE DECISION TO GRANT A CONSTRUCTION PERMIT OR OPERATING LICENSE COULD NOT BE DECIDED BY SUMMARY DISPOSITION.

5. INTERVENOR FILING

THE PROPOSED RULE WOULD PROHIBIT A PARTY FROM FILING PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW ON ISSUES NOT RAISED BY THAT PARTY. SIMILARLY, AN INTERVENOR WOULD BE PROHIBITED FROM FILING AN APPEAL FROM INITIAL DECISIONS ON AN ISSUE THAT DID NOT PLACE IN CONTROVERSY.

6. PUBLICATION OF APPLICATIONS

THIS PROPOSAL WOULD REQUIRE THE COMMISSION TO PUBLISH A NOTICE THAT IT HAS RECEIVED A REACTOR LICENSE APPLICATION EVEN THOUGH THE APPLICATION HAS NOT BEEN DOCKETED BY THE STAFF.

QUESTION 8. (CONTINUED)7. TIME FOR FILING INTERVENTION PETITIONS

THIS PROPOSAL WILL REQUIRE THAT PETITIONS FOR INTERVENTION BE FILED WITHIN ONE MONTH AFTER THE STAFF'S DOCKETING REVIEW HAS BEEN COMPLETED.

8. TIME FOR FILING OF CONTENTIONS

ONCE ADMITTED AS A PARTY, THE INTERVENORS WOULD BE GIVEN THREE MONTHS TO REVIEW DOCUMENTS, DEVELOP CONTENTIONS, AND FILE THEM. THE THREE MONTH LIMIT IN THE PROPOSAL IS CURRENTLY UNDER STUDY.

9. HEARING

THIS PROPOSAL WOULD REQUIRE THAT THE PRESIDING OFFICER DETERMINE, AFTER THE CLOSE OF DISCOVERY, WHETHER TO PROCEED WITH A HEARING ON ANY OF THE SPECIFIC FACTUAL CONTENTIONS. THE COMMISSION MUST DECIDE WHETHER THIS IS THE APPROPRIATE POINT TO APPLY THE HIGHER THRESHOLD FOR CONTENTIONS.

10. IMMEDIATE EFFECTIVENESS REVIEW

CURRENT PRACTICE REQUIRES THE COMMISSION TO UNDERTAKE AN EFFECTIVENESS REVIEW BEFORE A FULL-POWER OPERATING LICENSE ISSUES WHICH INVOLVES REVIEW OF BOTH ON-THE-RECORD AND UNCONTESTED ISSUES. THIS PROPOSAL WOULD CONFORM THE COMMISSION'S REGULATIONS ON IMMEDIATE EFFECTIVENESS REVIEWS TO CURRENT AGENCY PRACTICE.

QUESTION 8. (CONTINUED)11. LATE-FILED CONTENTIONS

A DECISION ON WHETHER TO PUBLISH A RULE ACCORDING A PRESUMPTION OF GOOD CAUSE TO LATE-FILED CONTENTIONS WHICH WERE DEPENDENT ON THE INSTITUTIONAL UNAVAILABILITY OF DOCUMENTS OR NECESSARY INFORMATION IS BEING HELD IN ABEYANCE PENDING FURTHER REVIEW BY THE STAFF.

12. MISCELLANEOUS

THE COMMISSION DECIDED NOT TO UNDERTAKE ANY RULEMAKING THAT WOULD CHANGE THE FUNCTION OF THE STAFF IN LICENSING PROCEEDINGS. THE COMMISSION HAS AGREED TO REVISE ITS EX PARTE RULES SO THAT THEY CONFORM TO CURRENT AGENCY PRACTICE.

13. BACKFITTING

THE COMMISSION HAS PUBLISHED FOR COMMENT A PROPOSED BACKFITTING RULE WHICH WOULD PERMIT THE IMPOSITION OF NEW REGULATORY REQUIREMENTS ON NUCLEAR POWER PLANTS ONLY IF THE COMMISSION FINDS THAT THERE IS A SUBSTANTIAL INCREASE IN THE PUBLIC HEALTH AND SAFETY AND IF THE DIRECT AND INDIRECT COSTS ARE JUSTIFIED IN VIEW OF THE INCREASED PROTECTION. IF THE COMMISSION DECIDES THAT IMMEDIATE BACKFIT IS NECESSARY TO PROTECT HEALTH AND SAFETY, THIS ANALYSIS NEED NOT BE PERFORMED PRIOR TO THE IMPOSITION OF THE BACKFIT.

QUESTION 8. (CONTINUED)C. LICENSING BOARD PROPOSAL

INDEPENDENT OF THE RRTF, JUDGE COTTER, OF THE ATOMIC SAFETY AND LICENSING BOARD PANEL, UNDERTOOK A REWRITE OF THE NRC'S HEARING PROCEDURES. THE REWRITE INCORPORATES SOME RRTF PROPOSALS, RESTRUCTURES THE REGULATIONS, AND SIMPLIFIES THE LANGUAGE OF THE REGULATIONS. THE COMMISSION HAS DECIDED TO PUBLISH THE REWRITE AS AN ADVANCED NOTICE OF PROPOSED RULEMAKING.

D. STAFF PROPOSED RULES

THE FOLLOWING PROPOSED RULES TO CHANGE THE LICENSING PROCESS WERE DEVELOPED BY THE NRC STAFF.

1. NO SIGNIFICANT HAZARD² DETERMINATION

THE PROPOSED FINAL RULES SPECIFY CRITERIA FOR NOTICE, PUBLIC COMMENT, STATE CONSULTATION, AND STANDARDS FOR DETERMINING WHETHER PROPOSED LICENSE AMENDMENTS INVOLVE NO SIGNIFICANT HAZARDS.

2. HYBRID HEARINGS AND ON-SITE SPENT FUEL STORAGE

THE COMMISSION HAS PUBLISHED AND RECEIVED COMMENTS ON TWO OPTIONS TO IMPLEMENT THE HYBRID HEARING PROCESS MANDATED BY § 134 OF THE NUCLEAR WASTE POLICY ACT OF 1982. ONE OPTION WOULD MAKE SUBSTANTIAL ADDITIONS TO THE HEARING REGULATIONS, AND PERMIT INTERVENTION WITHOUT

QUESTION 8. (CONTINUED)

PLEADING CONTENTIONS. THE OTHER OPTION WOULD IMPLEMENT § 134 BY MODIFICATION TO THE SUMMARY DISPOSITION PROCESS.

3. EARTHQUAKES AND EMERGENCY PLANNING

COMMISSION DECISIONS HAVE HELD THAT THE POTENTIAL IMPACT OF EARTHQUAKES NEED NOT BE CONSIDERED IN DRAFTING EMERGENCY RESPONSE PLANS. THE PROPOSED RULE SIMPLY CODIFIES EXISTING COMMISSION CASE LAW.

4. EXPLANATION OF TABLE S-3 URANIUM FUEL CYCLE ENVIRONMENTAL DATA

THIS PROPOSED ACTION WOULD AMEND THE TABLE S-3 RULE BY PROVIDING A NARRATIVE EXPLANATION OF THE TABLE S-3 DATA WHICH GENERICALLY SUMMARIZES THE ENVIRONMENTAL EFFECTS OF THE URANIUM FUEL CYCLE SUPPORTING EACH NUCLEAR POWER PLANT.

5. TECHNICAL SPECIFICATIONS

THE PROPOSED RULE WOULD PROVIDE STANDARDS FOR DETERMINING WHICH ITEMS NEED TO BE TECHNICAL SPECIFICATIONS AND WHICH ITEMS SHOULD BE ASSIGNED TO A NEW CATEGORY BECAUSE OF A LESSEF IMPACT ON SAFETY. THE RULE ALSO WOULD PROMULGATE CRITERIA PERMITTING CHANGES IN THE NEW CATEGORY WITHOUT PRIOR NRC APPROVAL.

QUESTION 8. (CONTINUED)6. REOPENING RECORDS IN FORMAL LICENSING PROCEEDINGS

THE COMMISSION HAS PUBLISHED AND RECEIVED COMMENTS ON A PROPOSAL TO CODIFY AND REFINE THE CRITERIA DEVELOPED IN COMMISSION CASE LAW FOR REOPENING CLOSED RECORDS IN NUCLEAR POWER PLANT LICENSING.

E. STAFF PROPOSALS AT THE ADVANCED NOTICE STAGE

THE COMMISSION HAS DECIDED THAT ADVANCE COMMENT WOULD BE HELPFUL ON THE FOLLOWING PROPOSALS.

1. POST-CONSTRUCTION PERMIT DESIGN AND CONSTRUCTION CHANGE

THE STAFF IS DEVELOPING A RULE THAT WOULD PRESCRIBE IMPROVED APPROACHES FOR REDUCING AND CONTROLLING THE NUMBER OF CHANGES MADE IN PLANT DESIGN AND CONSTRUCTION AFTER THE CONSTRUCTION PERMIT HAS BEEN ISSUED.

2. NUCLEAR REACTOR SITING POLICY

THIS PROPOSAL WOULD UPDATE THE REACTOR SITING REGULATIONS TO REFLECT EXPERIENCE AND KNOWLEDGE ACQUIRED SINCE THE REGULATIONS WERE FIRST PUBLISHED IN 1962.

F. STAFF PROPOSED CHANGES

THE FOLLOWING CHANGES HAVE BEEN DEVELOPED BY THE STAFF AND AWAIT ACTION BY THE COMMISSION.

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QUESTION 8. (CONTINUED)1. JURISDICTION OF ADJUDICATORY BODIES

THIS PROPOSED CHANGE IN THE HEARING PROCEDURES WOULD CLARIFY THE AUTHORITY OF THE NRC'S ADJUDICATORY BOARDS TO DECIDE ISSUES RELATED TO A LICENSE APPLICATION FOR RECEIPT OF COLD FUEL PRIOR TO THE ISSUANCE OF AN OPERATING LICENSE.

2. RESOLUTION OF CONFLICTS OVER DISCLOSURE OF INFORMATION

THIS PROPOSED CHANGE IS DESIGNED TO RESOLVE CONFLICTS EMANATING FROM THE OBLIGATION OF NRC STAFF TO DISCLOSE MATERIAL RELEVANT TO A PENDING ADJUDICATION AND THE NEED TO WITHHOLD THAT INFORMATION FROM DISCLOSURE TO PROTECT THE CONFIDENTIALITY OF AN INVESTIGATION, INSPECTION, OR INFORMANT.

3. PART 50 SUBMITTALS

THIS PROPOSED CHANGE WOULD IMPROVE, SIMPLIFY, AND ECONOMIZE THE PROCEDURES FOR SUBMITTAL OF INFORMATION AND APPLICATIONS REQUIRED BY PART 50 AS PART OF THE LICENSING PROCESS.

QUESTION 9. DESCRIBE THE STATUS OF NEGOTIATIONS BETWEEN THE COMMISSION AND THE ENVIRONMENTAL PROTECTION AGENCY REGARDING REGULATION OF LOW LEVEL NUCLEAR WASTE DISPOSAL AND URANIUM MILL TAILINGS. IF THE COMMISSION BELIEVES LEGISLATION IS NECESSARY TO CLARIFY JURISDICTIONAL ROLES OF THE AGENCIES, SPECIFICALLY WHAT LEGISLATIVE CHANGES DOES THE COMMISSION RECOMMEND?

ANSWER.

STATUS OF NEGOTIATIONS:

MILL TAILINGS - NRC AND EPA HAVE BEEN INVOLVED IN DISCUSSIONS TO RESOLVE PROBLEMS IN THE ADMINISTRATION OF THE EPA MILL TAILINGS STANDARDS BY NRC SINCE THE STANDARDS WERE ISSUED IN OCTOBER 1983. CHAIRMAN PALLADINO MET WITH THEN EPA ADMINISTRATOR RUCKELSHAUS ON TWO OCCASIONS DURING 1984 TO ADDRESS KEY ISSUES, BETWEEN THE AGENCIES. IN A LETTER DATED NOVEMBER 23, 1984, THE CHAIRMAN ASKED THAT EPA RECONSIDER THE LATEST REVISED DRAFT MCLU TRANSMITTED TO EPA BY NRC ON JULY 26, 1984. THE CHAIRMAN ASKED EPA TO REVIEW THE DRAFT BASED ON THE COMMISSION'S POLICY STATEMENT PUBLISHED IN THE NOVEMBER 26, 1984 FEDERAL REGISTER NOTICE ON CONFORMING URANIUM MILL TAILINGS REGULATIONS.

QUESTION 9. (CONTINUED)

ON JANUARY 31, 1985, NRC AND EPA STAFF MET TO EXPLORE THOSE AREAS WHERE FURTHER NEGOTIATION ON THE MOU WOULD BE WORTHWHILE, GIVEN THE POSITIONS ESTABLISHED BY THE COMMISSION IN THE NOVEMBER 26, 1984 POLICY STATEMENT AND THE POSITIONS TAKEN BY EPA IN THEIR COMMENTS ON THE CONFORMING RULEMAKING NOTICE. NRC AND EPA STAFF ARE CURRENTLY CONSIDERING LIMITING THE SCOPE OF THE MOU TO FOCUS ON A JOINT STUDY AND COOPERATIVE DEVELOPMENT OF GUIDANCE FOR DECISIONS ON ALTERNATIVE CONCENTRATION LIMITS.

LOW-LEVEL WASTE - NRC AND EPA STAFFS HAVE DISCUSSED THE ISSUE OF POTENTIAL OVERLAP IN THEIR REGULATORY AUTHORITIES FOR LOW-LEVEL WASTE DISPOSAL. SINCE THE SUMMER OF 1982, SEVERAL DRAFT MOU'S HAVE BEEN PREPARED. NEGOTIATIONS ON AN MOU ARE CURRENTLY ON HOLD UNTIL NRC COMPLETES ITS STUDY OF THE NON-RADIOACTIVE CONSTITUENTS OF LOW-LEVEL WASTE. THIS STUDY SHOULD BE COMPLETED LATE THIS YEAR OR EARLY NEXT YEAR.

RECOMMENDED LEGISLATION:

LEGISLATION CLARIFYING OVERALL AGENCY ROLES - BOTH AGENCIES HAVE RESPONSIBILITIES TO PROTECT PUBLIC HEALTH UNDER THE ATOMIC ENERGY ACT (AEA) AND REORGANIZATION PLAN NO. 3 OF 1970 WHICH AUTHORIZED THE EPA TO ESTABLISH "GENERALLY APPLICABLE ENVIRONMENTAL STANDARDS" BUT DID NOT ADEQUATELY DEFINE THE SCOPE OF THIS AUTHORITY. PROBLEMS OF JURISDICTION ARISE FROM THIS LACK OF

QUESTION 9. (CONTINUED)

CLARITY. ADDITIONALLY, THERE ARE PROBLEMS WITH THE SPECIFICITY OF EPA STANDARDS ON SOURCE CATEGORY, CONTROL TECHNOLOGY PERFORMANCE, AND APPLICABLE STANDARDS FOR NON-RADIOLOGICAL MATERIALS. THE COMMISSION HAS NOT YET DETERMINED WHETHER LEGISLATION IS NEEDED TO RESOLVE THESE PROBLEMS.

LEGISLATION SPECIFICALLY AFFECTING WASTE MANAGEMENT JURISDICTIONAL PROBLEMS - NRC IS CURRENTLY IN THE PROCESS OF CONDUCTING A STUDY OF THE NON-RADIOACTIVE CONSTITUENTS OF LOW-LEVEL WASTE FOR THE PURPOSE OF EVALUATING THE EXTENT TO WHICH THEY CONTRIBUTE TO THE HAZARDS ASSOCIATED WITH LLW DISPOSAL. NRC INTENDS TO USE THE RESULTS OF THIS STUDY IN NEGOTIATIONS WITH EPA ON THE NEED FOR REGULATORY ACTION BEYOND THAT WHICH IS PROVIDED BY 10 CFR PART 61. IF THESE NEGOTIATIONS ARE NOT PRODUCTIVE, LEGISLATIVE CLARIFICATION OF EACH AGENCY'S JURISDICTION IN LLW DISPOSAL MAY BE REQUIRED.

QUESTION 10. (A) WHAT IS THE ROLE OF THE NRC IN OVERSIGHT OF THE DEPARTMENT OF ENERGY'S HIGH LEVEL WASTE REPOSITORY DEVELOPMENT PROGRAM? WHAT FORMAL AND INFORMAL PROCEDURAL REQUIREMENTS AND TECHNICAL REVIEW REQUIREMENTS HAVE BEEN IMPOSED OR REQUESTED BY NRC FOR THE PRE-LICENSING PERIOD? WHY IS PERFORMANCE ASSESSMENT METHODOLOGY DEVELOPMENT A PRE-LICENSING ISSUE?

ANSWER.

NRC'S FORMAL ROLE IN OVERSIGHT OF THE DEPARTMENT OF ENERGY (DOE) IS THAT SPECIFIED IN THE NUCLEAR WASTE POLICY ACT (NWPA). THIS CONSISTS OF CONCURRENCE IN DOE'S SITING GUIDELINES AND REVIEW AND COMMENT ON DOE SITE CHARACTERIZATION PLANS, SEMI-ANNUAL UPDATE REPORTS AND CERTAIN DOCUMENTS SUCH AS THE MISSION PLAN AND PROJECT DECISION SCHEDULE. THE REVIEW OF DOE'S SITE CHARACTERIZATION PLANS IS ALSO REQUIRED BY NRC REGULATION, 10 CFR 60, WHICH IS BEING AMENDED TO CONFORM WITH THE STATUTORY REQUIREMENTS OF NWPA.

COMPLYING WITH THE PROCEDURES AND SCHEDULES IN THE NWPA ALSO REQUIRES CLOSE INFORMAL INTERACTION BETWEEN NRC AND DOE FROM THE OUTSET. THIS INTERACTION HAS BEEN FACILITATED BY A JUNE 1983 PROCEDURAL AGREEMENT BETWEEN NRC AND DOE IDENTIFYING GUIDING PRINCIPLES FOR INTERFACE DURING SITE INVESTIGATION AND CHARACTERIZATION.

QUESTION 10A. (CONTINUED)

THIS INTERACTION WILL BE ESSENTIAL IN ASSURING THAT, (1) ISSUES ARE RAISED EARLY SO THEY CAN BE ADDRESSED BY DOE'S SITE CHARACTERIZATION ACTIVITIES, AND (2) NRC IS PROVIDED WITH ADEQUATE INFORMATION TO MAKE ITS LICENSING DECISION IN THE TIME ALLOTTED BY THE NHPA.

NRC'S ROLE DURING PRE-LICENSING WILL BE TO ESTABLISH THE INFORMATION REQUIREMENTS TO ASSURE THAT A LICENSE APPLICATION PRESENTED BY DOE IS SUFFICIENTLY COMPLETE TO ALLOW A TIMELY LICENSING DECISION TO BE MADE. DOE'S RECOMMENDATION OF A SITE FOR A REPOSITORY TO THE PRESIDENT AND THE CONGRESS MUST CONSIDER NRC'S PRELIMINARY VIEWS ON THIS MATTER.

THE PRE-LICENSING SITE CHARACTERIZATION WILL TO A LARGE EXTENT BE AN EXPLORATORY PROCESS. THE INTERPRETATION OF DATA GATHERED AT ONE STAGE OR IN ONE SERIES OF TESTS OR INVESTIGATIONS LEADS TO IDENTIFICATION OF WHAT INFORMATION MIGHT NEXT BE NEEDED.

BECAUSE OF THE EXPLORATORY NATURE OF SITE CHARACTERIZATION, NRC WILL NEED TO INTERACT WITH DOE THROUGHOUT THE PROCESS TO IDENTIFY AND ATTEMPT TO RESOLVE ISSUES AT THE EARLIEST POSSIBLE TIME. SUCH INTERACTION SHOULD ALSO MINIMIZE THE NEED FOR COSTLY REWORK BY DOE IN PREPARING ITS LICENSE APPLICATION.

THE SITE CHARACTERIZATION PLAN REVIEWS WILL BE SUPPLEMENTED BY PUBLICLY OPEN AND DOCUMENTED MEETINGS AND WORKSHOPS WITH THE DOE

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QUESTION 2A. (CONTINUED)

STAFF TO DISCUSS TECHNICAL ISSUES IN A TIMELY MANNER. THE NPC STAFF ALSO REVIEWS DOE REPORTS AND DATA AS THEY BECOME AVAILABLE AND CONDUCTS ON-SITE REVIEWS OF DOE INVESTIGATIONS AT CANDIDATE REPOSITORY SITES.

PERFORMANCE ASSESSMENT METHODOLOGY DEVELOPMENT IS A PRE-LICENSING ISSUE BECAUSE THE METHOD SELECTED TO DEMONSTRATE REPOSITORY PERFORMANCE DETERMINES THE TESTING AND DATA NECESSARY TO SUPPORT A LICENSE APPLICATION. THE METHOD OF ASSESSING, OR DEMONSTRATING, REPOSITORY PERFORMANCE AFFECTS THE ALLOCATION OF PERFORMANCE REQUIREMENTS FOR THE VARIOUS REPOSITORY SUBSYSTEMS AND COMPONENTS. THIS IN TURN DETERMINES THE TYPE AND EXTENT OF TESTING DURING THE SITE CHARACTERIZATION PERIOD WHICH WILL BE NECESSARY TO DEMONSTRATE ADEQUATE PERFORMANCE FOR EACH COMPONENT OF THE REPOSITORY. THUS, AN UNDERSTANDING OF THE PERFORMANCE ASSESSMENT METHODOLOGY IS NECESSARY DURING THE PRE-LICENSING PERIOD.

QUESTION 10. (B) THE DOE MISSION PLAN FOR DEVELOPMENT OF HIGH LEVEL WASTE REPOSITORIES INDICATES THAT TITLE I AND SOME TITLE II DESIGN WORK IS PLANNED TO BE PROVIDED AT ALL THREE SITES CHARACTERIZED, PRIOR TO FINAL SITE SELECTION AND LICENSE APPLICATION. TO WHAT EXTENT DO NRC REQUESTS OR REQUIREMENTS CREATE THE NEED FOR SUCH DESIGN WORK? DOES THIS DESIGN DETAIL CONTRIBUTE TO THE TECHNICAL UNDERSTANDING, CONFIDENCE IN OR LICENSEABILITY OF A REPOSITORY SITE? IS A 20-FOOT SHAFT REQUIRED TO FULFILL NRC REQUIREMENTS OR RECOMMENDATIONS FOR SITE CHARACTERIZATION? WHAT IS THE ESTIMATED COST PER SITE OF MEETING NRC SITE CHARACTERIZATION REQUIREMENTS OR RECOMMENDATIONS?

ANSWER.

NRC CRITERIA (10 CFR 60) DO NOT REQUIRE DOE TO DEVELOP TITLE I AND TITLE II DESIGN WORK FOR ALL THREE SITES. THE TERMS TITLE I AND TITLE II ARE DERIVED FROM PROCUREMENT REGULATIONS ESTABLISHED TO DESCRIBE ARCHITECT-ENGINEER CONSTRUCTION CONTRACTS. THESE TERMS ARE USED TO DESCRIBE THE EXTENT TO WHICH THE ARCHITECT-ENGINEER IS TO COMPLETE DESIGN ACTIVITIES FOR A PARTICULAR CONTRACT. TITLE I MUST CONTAIN SUFFICIENT INFORMATION TO PREPARE COST ESTIMATES FOR A PROJECT. TITLE II MUST BE SUFFICIENT FOR CONSTRUCTION.

QUESTION 10B. (CONTINUED)

NRC REQUIRES THAT THE LICENSE APPLICATION MUST CONTAIN ENOUGH INFORMATION FOR THE COMMISSION TO REACH FINDINGS AS TO WHETHER THE PROPOSED SITE AND DESIGN MEET THE PERFORMANCE OBJECTIVES AND TECHNICAL REQUIREMENTS OF 10 CFR 60. THE COMMISSION DOES NOT REQUIRE PREPARATION OF TITLE I OR TITLE II DOCUMENTS. HOWEVER, THESE DOCUMENTS COULD PROVIDE IMPORTANT REFERENCE MATERIAL FOR THE LICENSING PROCESS. A PORTION OF THE MATERIAL CALLED FOR UNDER THE DOE PROCUREMENT REGULATIONS IS NEEDED IN THE LICENSE APPLICATION. FOR EXAMPLE, INFORMATION ON DESIGN OF STRUCTURES, SYSTEMS, AND COMPONENTS IMPORTANT TO SAFETY AND WASTE ISOLATION WILL HAVE TO BE PROVIDED IN ENOUGH DETAIL TO SUPPORT THE FINDINGS REQUIRED BY 10 CFR 60. MANY OF THE DETAILS IN TITLE I AND TITLE II DESIGNS, SUCH AS ESTIMATES, CONTRACT DOCUMENTS, AND EVALUATIONS OF PROPOSALS FOR CONSTRUCTION ARE NOT NEEDED BY THE NRC. THE NRC ONLY REQUESTS INFORMATION NEEDED TO MAKE THE REQUIRED LICENSING FINDINGS. SPECIFIC REQUIREMENTS ON DESIGN INFORMATION NEEDS ARE INCLUDED IN 10 CFR PARTS 60.21(c)2 AND (c)3.

THE NRC DOES NOT SPECIFY THE SIZE OF EXPLORATORY SHAFTS. CONSIDERATIONS OF THE SIZE OF THE EXPLORATORY SHAFT WOULD INCLUDE AS A MINIMUM: 1) SEALING ASPECTS, 2) CHARACTERIZATION NEEDS AND 3) ACCESS REQUIREMENTS. IN ADDITION, DOE MUST CONSIDER COST AND FUTURE USE QUESTIONS. THE ONLY CONCERN NRC HAS IDENTIFIED REGARDING SHAFT SIZE HAS BEEN WHERE DOE HAS CONSIDERED USE OF VERY SMALL DIAMETER SHAFTS WHICH MAY UNDULY RESTRICT THE SITE CHARACTERIZATION ACTIVITIES. IT SHOULD BE NOTED THAT 10 CFR 60

QUESTION 10B. (CONTINUED)

PROHIBITS START OF CONSTRUCTION PRIOR TO GRANTING A CONSTRUCTION AUTHORIZATION. THEREFORE THE COMMISSION WILL CAREFULLY REVIEW ANY SITE CHARACTERIZATION PLANS TO ASSURE THAT DOE ACTIVITIES ARE IN FACT REASONABLY NECESSARY FOR PURPOSES OF SITE CHARACTERIZATION. THE NRC STAFF CONSIDERS THAT CONSTRUCTION OF UP TO TWO EXPLORATORY SHAFTS AND EXPLORATORY DRIFTING WITHIN THE HOST ROCK, TO AN EXTENT THAT IS ADEQUATE TO EVALUATE THE VARIABILITY OF THE IN SITU CONDITIONS, IS NEEDED. SHAFT SIZE SHOULD BE NO GREATER THAN IS REQUIRED FOR PURPOSES OF SITE CHARACTERIZATION, UNLESS THE ECONOMY RESULTING FROM EXCAVATING IN A SINGLE OPERATION AND THE BENEFIT OF HAVING FULLER DATA AVAILABLE IN THE LICENSE APPLICATION CLEARLY JUSTIFY A DECISION TO MAKE THE SHAFTS LARGE ENOUGH FOR USE DURING REPOSITORY OPERATIONS.

THE COST WILL VARY DUE TO SPECIFIC SITE AND MEDIA CONDITIONS. FOR EXAMPLE, IT WILL GENERALLY BE LESS EXPENSIVE TO CONSTRUCT SHAFTS AND DRIFTS IN SOFT ROCK (E.G., SALT) THAN IN HARD ROCK LIKE BASALT. HOWEVER, IT MAY BE EXPENSIVE TO INVESTIGATE ANOMALOUS CONDITIONS (E.G., BRINE POCKETS, GAS POCKETS, ETC.) THAT MAY BE FOUND IN A PARTICULAR SALT SITE.

IN ITS MISSION PLAN (APRIL 1984), THE DOE HAS COST ESTIMATES FOR SITE INVESTIGATIONS, DESIGN, AND DEVELOPMENT FOR THE REPOSITORY. IT IS NOT POSSIBLE TO IDENTIFY WHICH COSTS ARE SOLELY DUE TO REGULATORY REQUIREMENTS. HOWEVER, DOE ESTIMATES THAT CONSTRUCTION AND TESTING IN EACH EXPLORATORY SHAFT WILL COST ABOUT \$75 - \$100 MILLION. OTHER SITE INVESTIGATIONS (E.G., HYDROLOGY TESTING IN BOREHOLES) WILL RESULT IN A CUMULATIVE SITE CHARACTERIZATION COST OF ABOUT \$300 MILLION PER SITE. IN ADDITION, DOE PROJECTS DESIGN AND TECHNOLOGY DEVELOPMENT COSTS DURING THE SITE CHARACTERIZATION PERIOD TO BE ABOUT \$300 MILLION PER SITE. THE COST OF SITE CHARACTERIZATION CAN BE MORE ACCURATELY ESTIMATED AFTER THE SITE SELECTION PROCESS AND THE COMPLETION OF SHAFT DESIGN AND IN SITU TEST PLANS FOR SPECIFIC SITES.

QUESTION 11.

(A) DESCRIBE THE STATUS OF REACTOR DECOMMISSIONING NOW UNDER WAY, INCLUDING NRC PARTICIPATION IN OR OVERSIGHT OF THE DECOMMISSIONING OF THE SHIPPINGPORT FACILITY IN PENNSYLVANIA, AND THE COMMISSION'S PROPOSED RULE FOR REGULATION OF DECOMMISSIONING. SPECIFICALLY, TO WHAT EXTENT IS A REACTOR SITE REQUIRED TO BE DECONTAMINATED FOLLOWING TERMINATION OF REACTOR OPERATIONS? ARE DECOMMISSIONING FUNDS REQUIRED TO BE SEGREGATED OR OTHERWISE PROTECTED TO ASSURE THEIR AVAILABILITY REGARDLESS OF THE FINANCIAL HEALTH OF THE LICENSEE AT THE TIME AT WHICH THE REACTOR TERMINATES OPERATION?

ANSWER.

CURRENTLY THE NRC-LICENSED HUMBOLDT BAY POWER REACTOR AND THE DOE-CONTROLLED (NOT NRC LICENSED) SHIPPINGPORT REACTOR ARE BEING DECOMMISSIONED. HUMBOLDT IS BEING PUT INTO 30-YEAR SAFE STORAGE BEFORE BEING DISMANTLED. SHIPPINGPORT IS BEING DISMANTLED WITH DECOMMISSIONING BEING COMPLETED IN FY 1988 OR 1989, DEPENDING ON CONGRESSIONAL FUNDING. THE NRC THROUGH ITS CONTRACTOR, UNC, IS OBTAINING DATA FROM ACTUAL DECOMMISSIONING ACTIVITIES INCLUDING HUMBOLDT BAY AND SHIPPINGPORT, TO PROVIDE A DATA BASE FOR EVALUATING LICENSEE DECOMMISSIONING PLANS IN THE AREAS OF TECHNOLOGY,

QUESTION 11(A). (CONTINUED)

SAFETY AND COSTS. UNC IS ALSO OBTAINING DATA ON THOSE TMI-2 CLEANUP ACTIVITIES WHICH ARE SIMILAR TO DECOMMISSIONING (E.G., DECONTAMINATION AND DISMANTLEMENT TECHNIQUES AND RESULTS). FINALLY, WITH RESPECT TO SHIPPINGPORT, THE NRC THROUGH ITS CONTRACTOR, PNL, EXPECTS TO INVESTIGATE THE TYPE AND QUANTITIES OF LONG-LIVED ACTIVATION PRODUCTS GENERATED IN MATERIALS IN THE HIGH NEUTRON FLUX REGION OF THE REACTOR CORE TO PROVIDE INSIGHT INTO WHAT CAN BE EXPECTED IN TERMS OF SOURCE TERMS, RADIATION FIELDS, AND DISPOSAL PROBLEMS WHEN LARGE MODERN DAY REACTORS ARE TO BE DECOMMISSIONED.

THE COMMISSION'S PROPOSED RULE ON DECOMMISSIONING WAS PUBLISHED IN THE FEDERAL REGISTER ON FEBRUARY 11, 1985 FOR A 90 DAYS FOR PUBLIC COMMENT PERIOD. THIS PROPOSED RULE DEALS WITH FINANCIAL ASSURANCE, PLANNING, ALTERNATIVES, RECORDKEEPING, AND ENVIRONMENTAL REVIEW REQUIREMENTS FOR DECOMMISSIONING. FOLLOWING TERMINATION OF OPERATIONS, A REACTOR SITE IS REQUIRED TO BE DECONTAMINATED TO A LEVEL SUITABLE FOR RELEASE FOR UNRESTRICTED USE. THIS DECONTAMINATION NEED NOT BE COMPLETED PROMPTLY, HOWEVER, AND MAY BE PRECEDED BY A STORAGE PERIOD OF 30 TO 50 YEARS. THE PROPOSED RULE ON DECOMMISSIONING DOES NOT ADDRESS WHAT RADIOACTIVITY LEVELS ARE SUITABLE FOR RELEASE TO UNRESTRICTED USE. A SEPARATE RULEMAKING ON THIS ISSUE IS BEING PREPARED. IN THE MEANTIME, RESIDUAL RADIO-ACTIVITY LIMITS ARE IMPOSED ON A CASE-BY-CASE BASIS USING SURFACE CONTAMINATION LIMITS PUBLISHED IN REGULATORY GUIDE 1.86 PLUS THE PROVISION THAT THE RADIATION LEVEL

QUESTION 11(A). (CONTINUED)

IS LESS THAN 5 MICRO R/HR ABOVE NATURAL BACKGROUND (NATURAL BACKGROUND IS 5-10 MICRO R/HR) AS MEASURED AT ONE METER FROM SURFACES.

THE PROPOSED DECOMMISSIONING RULE CONTAINS REQUIREMENTS THAT POWER REACTOR APPLICANTS AND LICENSEES HAVE REASONABLE ASSURANCE THAT FUNDS WILL BE AVAILABLE FOR DECOMMISSIONING. FUNDING METHODS PERMITTED IN THE RULE ARE BASED ON GENERIC EVALUATIONS WHICH WERE DONE BY THE NRC STAFF¹ AND BY AN NRC CONSULTANT² REGARDING THE AMOUNT OF ASSURANCE PROVIDED BY AND THE COST OF THE VARIOUS METHODS. BASED ON THE EVALUATIONS IN THOSE REPORTS THE PROPOSED RULE PERMITS ELECTRIC UTILITIES TO USE ONE OF THE FOLLOWING: (1) METHODS WHICH SEGREGATE FUNDS FROM LICENSEE CONTROL AND ASSETS (EITHER AS A PREPAYMENT OR A SINKING FUND); (2) AN INSURANCE OR SURETY METHOD; OR (3) AN

¹NUREG-0584, REV. 3, "ASSURING THE AVAILABILITY OF FUNDS FOR DECOMMISSIONING."

²NUREG/CR-3899, "UTILITY FINANCIAL INSTABILITY AND AVAILABILITY OF FUNDS FOR DECOMMISSIONING."

QUESTION 11(A). (CONTINUED)

INTERNAL RESERVE METHOD IN WHICH FUNDS ARE CONTROLLED BY A UTILITY AND INVESTED IN EITHER UTILITY ASSETS OR IN A SEGREGATED ACCOUNT. AN EXCEPTION TO THIS IN THE RULE IS THAT UTILITIES OWNING ONLY ONE GENERATING FACILITY CANNOT USE INTERNAL RESERVE. ALSO, IF A FACILITY IS PLACED INTO STORAGE FOR DELAYED DECOMMISSIONING FOLLOWING THE END OF OPERATIONS, IT CANNOT USE INTERNAL RESERVE DURING THE STORAGE PERIOD. USE OF THE INTERNAL RESERVE FOR THE ELECTRIC UTILITIES INDICATED IS CONSIDERED TO PROVIDE REASONABLE ASSURANCE OF THE AVAILABILITY OF FUNDS FOR DECOMMISSIONING BASED ON THE FACT THAT REGULATED ELECTRIC UTILITIES ARE ALLOWED TO RECOVER THE COST OF PROVIDING ELECTRICITY FROM THEIR CUSTOMERS, THAT UTILITIES ARE REQUIRED BY THE RECENT PROMULGATION OF 10 CFR 50.54(w) TO MAINTAIN ADEQUATE ONSITE ACCIDENT DECONTAMINATION INSURANCE THUS REMOVING A MAJOR POTENTIAL CAUSE OF UTILITY BANKRUPTCY, AND THAT ACCORDING TO AN NRC CONSULTANT STUDY² EVEN FINANCIALLY TROUBLED UTILITIES HAVE SUFFICIENT ASSETS TO COVER THE COSTS OF DECOMMISSIONING.

COMMISSIONERS ASSELSTINE AND BERNTHAL CONTINUE TO BE CONCERNED ABOUT THE VULNERABILITY OF THE INTERNAL FUNDING MECHANISM FOR DECOMMISSIONING FUNDS, PARTICULARLY WHERE THE FUNDS ARE USED TO PURCHASE ASSETS OR REDUCE EXISTING DEBT. THEY BELIEVE THE PROPOSED RULE SHOULD HAVE INCLUDED TWO OPTIONS FOR PUBLIC COMMENT: ONE OPTION WOULD PERMIT THE USE OF UNSEGREGATED INTERNAL FUNDING FOR ELECTRIC UTILITIES (AS THE STAFF RECOMMENDED) AND THE OTHER OPTION NOT PERMITTING THE USE OF UNSEGREGATED INTERNAL FUNDING.

COMMISSIONERS ASSELSTINE AND BERNTHAL HAVE REQUESTED PUBLIC COMMENTS ON THE NEED TO CONSIDER THE POSSIBILITY OF INSOLVENCY AND ITS IMPACT ON THE CONTINUED AVAILABILITY OF DECOMMISSIONING FUNDS.

QUESTION 11. (B) ON WHAT SCHEDULE MUST URANIUM MINES AND MILLS WHICH CLOSE DOWN DECOMMISSION FACILITIES AND RECLAIM TAILINGS IMPOUNDMENTS? HOW MANY LICENSED OPERATIONS HAVE CLOSED IN THE PAST YEAR OR ARE EXPECTED TO CLOSE IN THE NEXT YEAR AND AT WHAT TIME WILL THEY BE REQUIRED TO BEGIN DECOMMISSIONING?

ANSWER.

NRC HAS NOT ESTABLISHED FIXED SCHEDULES FOR WHEN URANIUM MILLS MUST DECOMMISSION FACILITIES AND RECLAIM TAILINGS IMPOUNDMENTS. OUR CURRENT LICENSING PRACTICE IS TO CONSIDER EACH LICENSEE'S SITUATION AND ENSURE ADEQUATE HEALTH, SAFETY, AND ENVIRONMENTAL PRECAUTIONS ARE TAKEN AFTER SHUTDOWN AND PRIOR TO DECOMMISSIONING AND RECLAMATION.

THE FOLLOWING TABLE SUMMARIZES THE OPERATIONAL STATUS OF THE CONVENTIONAL COMMERCIAL URANIUM MILLS. THE SUMMARY REFLECTS STATUS AND PLANS AS OF THE FIRST WEEK OF FEBRUARY 1985 AND INCLUDES BOTH NRC AND AGREEMENT STATE LICENSEES.

QUESTION 11(B). (CONTINUED)LICENSEE STATUS

OPERATING MILLS WITH NO SHUTDOWN PLANS.	4
OPERATING MILLS WITH SHUTDOWN PLANNED.	3
MILLS SHUTDOWN WITH DEFINITE RESTART PLANS.	2
MILLS SHUTDOWN WITH UNCERTAIN RESTART PLANS.	14
MILLS ACTIVELY DECOMMISSIONING.	<u>5</u>
TOTAL	28

THE DOWNTURN IN DOMESTIC PRODUCTION NEEDS AND PRICE FOR URANIUM ARE RESPONSIBLE FOR THE UNCERTAIN STATUS OF FACILITIES. THE MAJORITY OF LICENSEES WHO HAVE CLOSED THEIR FACILITIES HAVE NOT DECIDED WHETHER TO CLOSE PERMANENTLY OR NOT. INTERIM MEASURES TO PROTECT THE PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT ARE REQUIRED OF LICENSEES WHOSE MILLS ARE CLOSED WITH UNDECIDED RESTART PLANS. THESE INTERIM MEASURES INCLUDE EARTHEN COVERS TO CONTROL DUST, MAINTENANCE OF THE IMPOUNDMENTS, AND CONTINUATION OF ENVIRONMENTAL MONITORING PROGRAMS.

SINCE 1983, 5 MILLS HAVE SHUT DOWN. AT LEAST 3 MILLS MAY SHUT DOWN IN THE NEXT YEAR.

UNDER SECTION 62 OF THE ATOMIC ENERGY ACT OF 1954 AS AMENDED, THE NRC IS AUTHORIZED TO REGULATE "ANY SOURCE MATERIAL AFTER REMOVAL FROM ITS PLACE OF DEPOSIT IN NATURE." THUS, WHILE NRC IS AUTHORIZED TO REGULATE SOURCE MATERIAL AS SOON AS IT COMES OUT OF THE MINE, IT DOES NOT HAVE JURISDICTION OVER THE REGULATION OF URANIUM MINING (WITH THE EXCEPTION OF SOLVENT EXTRACTION MINING). THE REQUIREMENTS FOR MINING OPERATIONS ARE REGULATED BY OTHER FEDERAL AGENCIES INCLUDING THE MINING HEALTH AND SAFETY ADMINISTRATION, AND THE ENVIRONMENTAL PROTECTION AGENCY, OR BY STATE AGENCIES.

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COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

February 11, 1985

Dr. David A. Ward
Chairman
Advisory Commission on Reactor Safeguards
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Ward:

The Subcommittee on Energy and the Environment is beginning its overview of the Nuclear Regulatory Commission's budget authorization for fiscal years 1986-1987. I would appreciate having submitted for the record the views of the ACRS, or any of your individual members, regarding this budget request or any programmatic or policy issues currently of concern.

Due to a very full nuclear schedule, we have planned to have only the Commissioners testify at the Subcommittee hearing. If the need arises, further hearings may be scheduled later in the year. Thank you for your assistance.

Sincerely,

Morris K. Udall

MORRIS K. UDALL
Chairman



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

April 15, 1985

The Honorable Morris K. Udall, Chairman
Committee on Interior and Insular Affairs
U. S. House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

In your letter dated February 11, 1985, to the Advisory Committee on Reactor Safeguards (ACRS) you asked that the ACRS submit for the record its views or those of individual members regarding the Nuclear Regulatory Commission's (NRC) budget request for Fiscal Years 1986-1987 or any programmatic or policy issues currently of concern. On February 15, 1985, we transmitted to the Congress our annual report on the NRC Safety Research Program (NUREG-1105). That report contains our detailed comments and recommendations for the NRC Safety Research Program and budget proposed for FY 1986. Our comments on the FY 1987 program will be provided later when details of the research program for this period are available to us.

We regret that we did not have the opportunity to testify at your Subcommittee's hearing on the NRC program. In lieu of that appearance, we would like to emphasize the following comments from NUREG-1105:

- We find the proposed funding of \$121 million for the NRC Safety Research Program for FY 1986 to be barely acceptable, and we urge the Congress to make no further reduction.
- Funding for design of a Modular Test Facility (MTF), to replace the several existing facilities for thermal-hydraulic research, has been eliminated. If such a facility is found necessary or desirable in the future, we believe that it should be funded and operated by the Department of Energy (DOE) for use by the nuclear industry as well as by the NRC. If this should be the case, support by the Congress for such a DOE facility might be required.
- The NRC has proposed no research within the Office of Nuclear Regulatory Research on human factors in FY 1986. We disagree strongly with this decision and recommend that \$2.5 million be provided for such research by reallocation of a portion of the funds now proposed for in-pile tests on damaged fuel in the Severe Accident Research Program.
- Funding for the research program on High-Level Waste (HLW) Management has been reduced to a level that will make it difficult for the NRC to meet the schedule for licensing a HLW repository. An appropriate remedy

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would be for the Congress to devise a mechanism to allow the NRC to draw on the Nuclear Waste Fund to provide adequate funding for the HLW program.

Since these comments were already available to you in NUREG-1105, the main purpose of our testimony would have been to emphasize them. We note with regret that the subsequent Subcommittee markings were generally inconsistent with those recommendations.

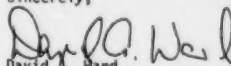
In addition, we pointed out in NUREG-1105 that the funding for the NRC Safety Research Program has been declining continuously over the past few years. The NRC Staff believes that there is some level of research funding below which it will be very difficult to maintain a level of knowledge and expertise adequate to address and solve current problems, and more important, to address new problems in a timely manner when they arise, as they certainly will. The NRC Staff is preparing a Safety Research Program plan which addresses this issue. During the next few months, we expect to review and comment on the plan and on the need for, and the appropriate funding level of, a base research program.

We are in the process of developing positions in the following three important areas, and we would like the opportunity to discuss with your Subcommittee, at some future date, our positions on these matters:

- . A base level of funding for future NRC safety research, mentioned above.
- . An assessment of the present state of safety in the nuclear power industry.
- . A long-range plan for NRC regulatory activities.

And finally, had we testified, we would have urged that you consider reinstating the budget and manpower cuts that the Commission plans to impose on ACRS activities during FY 1986 and 1987, particularly in view of the increased ACRS activities related to the civilian radwaste program.

Sincerely,


David A. Ward
Chairman

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OFFICE OF THE
CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

May 10, 1985

The Honorable Morris K. Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The FY 1984-85 NRC Authorization Act stipulated that the Commission consider four issues in its efforts to upgrade its technical data acquisition capabilities for response to emergencies at licensed nuclear power plants:

- "(A) the appropriate role of the Commission during abnormal conditions at a nuclear reactor licensed by the Commission;
- (B) the information which should be available to the Commission to enable the Commission to fulfill such role and to carry out other related functions;
- (C) various alternative means of assuring that such information is available to the Commission in a timely manner; and
- (D) any changes in existing Commission authority necessary to enhance the Commission response to abnormal conditions at a nuclear reactor licensed by the Commission."

The Commission has carefully considered and resolved each of these issues. The enclosed materials provide a description of these considerations and the conclusions reached.

These materials are being provided to each of the Congressional committees with oversight responsibilities for NRC.

Sincerely,

Nunzio J. Palladino
Chairman

Enclosures:
Responses to Issues Delineated in
FY 1984-85 NRC Authorization Act

cc w/enclosures:
Rep. Manuel Lujan

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RESPONSES TO ISSUES DELINEATED IN FY 1984-85
NRC AUTHORIZATION ACT

- (A) "The appropriate role of the Commission during abnormal conditions at a nuclear reactor licensed by the Commission."

The revised role of this agency during a nuclear emergency has been defined in NUREG-0728, revised, which was forwarded to the Congress in February 1983. Briefly, the agency's role is fourfold. The NRC monitors the licensee to ensure that appropriate recommendations are being made with respect to offsite protective actions. The NRC informs other Federal agencies and entities and in coordination with other public affairs groups, informs the news media of the NRC's knowledge of the situation. The NRC provides advisory support to the licensee and State and local authorities, including confirming the licensee's recommendations to offsite authorities. Finally, in some rare and unusual situations, the NRC may find it necessary to intervene by providing limited direction to the licensee.

The Commission believes that this role can best be fulfilled by sending a team of experts to the site of an emergency, with the Headquarters Operations Center providing the initial response during the 2 to 6 hours that the Site Team is in transit and providing support and analysis to the Site Team once it arrives.

- (B) "The information which should be available to the Commission to fulfill such role and to carry out other related functions."

A list of parameters has been compiled and subjected to limited testing to evaluate its value in enabling the Commission to fulfill its designated role. This data set is designed to provide sufficient knowledge of (1) reactor coolant system conditions to assess the likelihood or extent of core damage, (2) containment building conditions to assess the likelihood of its failure, (3) radioactivity releases to assess the immediacy and degree of public danger, and (4) meteorological conditions to assess the distribution of potential or actual impacts on the public. The lists of parameters for Pressurized Water Reactors and Boiling Water Reactors are provided in Tables 1 and 2, respectively.

- (C) "Various alternative means of assuring that such information is available to the Commission in a timely manner."

The Commission staff considered five options for acquiring this data. These were:

1. A fully automated system for direct acquisition of data from plant sensors and transmission in standard format to NRC (this is a scaled down version of the Nuclear Data Link (NDL) concept, addressing only the new data list).
2. A licensee initiated transmission of selected parameters from existing electronic data systems, which have been provided by the licensees for their own emergency response facilities.
3. A computer terminal at each site for manual entry of manually acquired data that would be transmitted electronically to the Operations Center in a standard format.
4. A telefax system for transmitting image facsimile of manually compiled data sheets.
5. An upgraded voice link, employing specially trained and qualified personnel as communicators.

Criteria for comparing these options were developed from problems encountered during the agency's response to events and exercises and from previous criticism of the NDL concept. These criteria involve accuracy, reliability, timeliness, completeness, costs (in dollars and expert personnel), and backfitting requirements. These criteria have been more specifically delineated in Table 3. The five options have been compared against these criteria in Tables 4a through 4e, and the comparisons are summarized in Table 5.

On the basis of these considerations, the Commission staff has determined that the second option enumerated above provides the most appropriate means to support its emergency response role. Because of the emphasis on utilizing the electronic data systems already being developed by the licensees for their own emergency response facilities, this option has been named the Emergency Response Data System (ERDS).

Under the ERDS concept, an electronic transmission system would be individually fashioned for each site. It would accept from the licensee's electronic information system(s), in the licensee's format, those parameters that are on the NRC's emergency data list. During declared emergencies, the ERDS would be activated by the licensee to begin transmissions to the Operations Center. Because the role performed by the licensees at their emergency response facilities (in particular their Emergency Operations Facilities, EOF) is similar to the role of the NRC during emergencies, the licensees' data systems already include most of the parameters desired by NRC. Those few parameters that are not included on a particular licensee's system can be communicated by voice over the existing Emergency Notification System (ENS), thus avoiding requirements on that licensee to backfit the data system to include those parameters.

With the cooperation and assistance of the Duke Power Company, the ERDS concept was tested in a limited exercise during July 1984. Electronic data transmissions from the McGuire plant were provided by Duke's "Crisis Management Data Transmission System," utilizing a data list specifically restricted to parameters on NRC's emergency data list. This exercise demonstrated that there is great value in using electronic data transmission to obtain a very modest set of reliable, time-tagged data at modest frequency. NRC's assessment activities were initiated sooner and progressed more rapidly throughout the exercise. Data errors were eliminated. The Reactor Safety Team and the Protective Measures Team exhibited major improvement in their abilities to focus on the significant factors and to predict the course of the events relevant to protecting the public. Questions addressed to the licensee were better focused, and the burden on the licensee's telephone communicator was substantially reduced.

If the implementation of the ERDS concept makes a new regulatory requirement necessary then, prior to implementation of any new requirement, the concept would be developed further and made available for comment in accordance with NRC's rulemaking procedures.

- (D) "Any changes in existing Commission authority necessary to enhance the Commission response to abnormal conditions at a nuclear reactor licensed by the Commission."

The Commission does not require any changes to its existing statutory authority in order to properly respond to abnormal conditions at licensed nuclear reactors. The role, as detailed in NUREG-0778, revised, is well within the Commission's authorities under the Atomic Energy Act, as amended. The Commission has authority under the Atomic Energy Act of 1954, as amended, to potentially direct all safety-related aspects of operation during an emergency. Under the existing regulatory framework, licensees are primarily responsible for ensuring safe operation of their facilities. However, the Commission has the authority to order a licensee during an emergency to take any number of possible protective actions, ranging from obtaining NRC concurrence before the licensee takes certain actions to taking specific Commission-ordered actions to permitting actual operation of the facility by the Commission. The legal basis for ordering the licensee to take certain actions stems from Section 161 of the Atomic Energy Act, as amended (42 U.S.C. § 2201), which authorizes the Commission to issue orders governing the use of radioactive material and operation of nuclear facilities. Section 186c of the Atomic Energy Act, as amended (42 U.S.C. § 2236(c)), authorizes the Commission "[i]n cases found by the Commission to be of extreme importance... to the health and safety of the public" to "enter upon and operate the facility prior to any of the procedures provided under the Administrative Procedure Act."

The reference to the Administrative Procedure Act in Section 186c is to the general rule applicable to all NRC orders that, in ordinary circumstances, the Commission is required to afford the licensee notice and an opportunity to be heard before the licensee is bound to take the ordered action. Notwithstanding the general requirement that a licensee be given a prior opportunity to be heard, the Commission has the authority to issue orders that are effective upon issuance to require a licensee to take certain actions in circumstances compelling immediate action to protect public health and safety. See Administrative Procedure Act § 9(b), 5 U.S.C § 558(c); 10 CFR 2.202(f) and 2.204. The use of immediately effective orders must be justified by the emergency nature of the situation and by an overriding need to protect public health and safety by immediate action.

Notwithstanding this broad authority, the Commission has decided that its role during an emergency at a nuclear power plant should be limited to the functions discussed under Question A above. This role emphasizes the licensee's responsibility to operate its facility in a manner so as to protect the public health and safety, and it emphasized the NRC's responsibility to closely monitor the licensee's actions to assure that the public health and safety is being protected to the best extent possible during abnormal situations.

TABLE 1
PWR PARAMETER LIST

<u>Primary Coolant System</u>	Pressure Temperatures - hot leg Temperatures - cold leg Temperatures - core exit thermocouples Subcooling margin Pressurizer level RCS charging/makeup flow Reactor vessel level (when available) Reactor coolant flow Neutron flux - startup range
<u>Secondary Coolant System</u>	Steam generator levels Main feedwater flows Auxiliary/Emergency feedwater flows
<u>Safety Injection</u>	High pressure safety injection flows Low pressure safety injection flows Safety injection flows (Westinghouse) Borated water storage tank level
<u>Containment</u>	Containment pressure Containment temperatures Hydrogen concentration Containment sump levels
<u>Radiation Monitoring System</u>	Reactor coolant radioactivity Containment radiation level Condenser air removal radiation level Effluent radiation monitors Process radiation monitor levels
<u>Meteorological</u>	Wind speed Wind direction Atmospheric stability

TABLE 2
BWR PARAMETER LIST

<u>Primary Coolant System</u>	Reactor pressure Reactor vessel level Feedwater flow Neutron flux - startup range
<u>Safety Injection</u>	RCIC flow HPCI/HPCS flow Core spray flow LPCI flow Condensate storage tank level
<u>Containment</u>	Drywell pressure Drywell temperatures Hydrogen and oxygen concentration Drywell sump levels Suppression pool temperature Suppression pool level
<u>Radiation Monitoring System</u>	Reactor coolant radioactivity level Primary containment radiation level Condenser off-gas radiation level Effluent radiation monitor Process radiation levels
<u>Meteorological</u>	Wind speed Wind direction Atmospheric stability

TABLE 3
CRITERIA FOR IMPROVING TECHNICAL DATA ACQUISITION

- ° Accuracy
 - Minimize errors in acquiring data from plant sensors
 - Minimize errors in transmitting data to Operations Center
- ° Reliability
 - Availability for prompt implementation upon occurrence of an event
 - Dependability of routine updating
- ° Timeliness
 - Minimize delay initiating data transmission
 - Minimize time elapsed between data acquisition and availability in Operations Center
- ° Completeness
 - Obtain sufficient number of parameters
 - Maintain associations of time and source among various data
- ° Cost
 - Obtain favorable cost-benefit comparison with other alternatives
- ° Personnel Requirements
 - Minimize number of technical experts needed to operate system
- ° Backfitting Requirements
 - Minimize requirements on licensee and intrusion to plant systems

TABLE 4a
CONSIDERATIONS FOR FULLY AUTOMATED
SYSTEM TAKING DATA FROM PLANT SENSORS
(NUCLEAR DATA LINK)

- Accuracy is excellent because there are no human interfaces.
- Reliability is excellent because there are no human interfaces.
- Timeliness is excellent because system is immediately available and capable of rapid transmission with frequent updating.
- Completeness is potentially excellent because any necessary parameter can be accessed.
- Cost is high because a totally new system must be developed for each plant.
- No personnel are required for acquisition, transmission, or receipt of data.
- Backfitting requirements would be extensive on licensees for equipment at plants.

TABLE 4b
CONSIDERATIONS FOR AUTOMATED
SYSTEM ACCESSING LICENSEES'
EXISTING ELECTRONIC
DATA SYSTEMS
(EMERGENCY RESPONSE DATA SYSTEM)

- Accuracy is excellent because there are no human interfaces.
- Reliability is excellent because there are no human interfaces, and many systems such as Safety Parameter Display System (SPDS) will incorporate automatic data validation.
- Timeliness is excellent because the system is immediately available and capable of rapid transmission with frequent updating. Promptness of initiation may vary depending upon licensees' system configurations. In some cases, activation may not occur until the licensee mans its technical support center.
- Completeness is expected to be generally excellent because the primary objective of the SPDS requirement is to provide the licensee with a tool for quickly assessing the overall health of the plant; i.e., the same need that the NRC faces. It is expected that there would be minimal requests for supplemental information to be transmitted by voice.
- Cost is relatively low because most licensees are already installing systems to transmit data among their own Emergency Response Facilities (ERFs), but there will be substantial hardware and software interface requirements at the Operations Center to receive the diverse signals and formats.
- No personnel are required for acquisition, transmission, or receipt of data on SPDS. Supplemental voice transmissions are not expected to overburden existing voice links.
- Backfitting on plant systems would be minimal in that licensees only would have to provide one additional output port on the SPDS or other ERF data system.

TABLE 4c
CONSIDERATIONS FOR MANUAL DATA
ACQUISITION AND TERMINAL ENTRY
FOR ELECTRONIC TRANSMISSION

- Accuracy is poor because manual data acquisition and encoding is subject to instrument reading errors, handwriting reading errors, and typographical errors.
- Reliability is poor because manual data acquisition is easily interrupted. Initiation would not be prompt because of personnel requirements.
- Timeliness is only fair because acquisition and entry are time consuming, but data handling thereafter at NRC is automatic. Data verification could cause more extensive delays.
- Completeness is potentially good, but acquisition time may limit number of parameters that can be handled.
- Costs are modest, including at least a terminal and a modem for each reactor.
- Personnel requirements include at least one person knowledgeable in plant operations to acquire data and one technical typist to enter data on a terminal. Verification of data would require at least one highly expert individual.
- Backfitting of plant equipment would not be required.

TABLE 4d
CONSIDERATIONS FOR A SYSTEM TO
TELEFAX MANUALLY ACQUIRED DATA TO NRC

- Accuracy is poor because manual data acquisition and entry (at NRC) is subject to instrument reading errors, handwriting reading errors, and typographical errors. Verification would be difficult because typist would not be in room with plant personnel.
- Reliability is poor because manual data acquisition is easily interrupted. Initiation may not be prompt because of personnel requirements.
- Timeliness is only fair because acquisition and entry are time consuming, but data handling thereafter at NRC is automatic. Data verification would require return telefax and more delay.
- Completeness is potentially good, but acquisition time may limit number of parameters that can be handled.
- Costs are modest, including a compatible telefax in each control room.
- Personnel requirements include one person knowledgeable in reactor operations to acquire data and one NRC employee to enter data.
- Backfitting to plant systems is not required.

TABLE 4e
CONSIDERATIONS FOR A SYSTEM USING
MANUAL ACQUISITION AND VOICE TRANSMISSION

- ° Reliability is poor because manual data acquisition may be easily interrupted. Initiation would not be prompt because of personnel requirements.
- ° Accuracy has been shown to be marginal for voice relay of data. Detection of instrument reading errors, handwriting reading errors, and typographical errors (at NRC) would depend on voice link readback for detection and correction.
- ° Timeliness has been shown to be marginal because manual data acquisition and voice relay is too slow to transmit required data.
- ° Completeness is poor because transmission time requirements seriously limit number of parameters that can be handled. Source and time reference have been demonstrated to be difficult to maintain with data relayed by voice.
- ° Costs are not incurred unless additional telephone links are utilized to increase data transmission/verification rate.
- ° Personnel requirements include an individual knowledgeable in plant operations to acquire data at the site and one technical typist to enter data at NRC. Additional telephone lines would require pairs of additional communicators.
- ° Backfitting would not be required.

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TABLE 5
COMPARISON OF OPTIONS

<u>OPTIONS</u>	<u>ACCURACY</u>	<u>RELIABILITY</u>	<u>TIMELINESS</u>	<u>COMPLETENESS</u>	<u>COST</u>	<u>EXPERT PERSONNEL</u>	<u>BACKFIT</u>
Nuclear Data Link	Excellent	Excellent	Excellent	Excellent	High	None	Extensive for Sensor Readouts
Emergency Response Data System	Excellent	Excellent	Excellent*	Excellent	Moderate	None	Minor for SPDS Output
Manual Terminal At Site	Poor	Poor	Fair But Not Prompt	Limited by Time	Moderate	Operations Specialist	None
Telefax	Poor	Poor	Fair But Not Prompt	Limited by Time	Moderate	Operations Specialist	None
Qualified Voice Communicators	Marginal	Poor	Marginal	Limited by Time	None	Operations Specialist	None

*Note: Activation time may vary depending upon licensees' equipment configurations. In some cases, activation may not occur until the licensee mans its Technical Support Center.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 3, 1985

*Revised
BAV #*

The Honorable Morris Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

We are pleased to respond to issues raised during the Subcommittee's hearings on the NRC's fiscal 1986 and 1987 budget request. In addition, we are providing revised responses to questions 2 and 3 of your February 4, 1985 letter.

We regret any difficulties our delay in responding might have caused.

Sincerely,

Edward Jay
Carlton Kammerer, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: Rep. Manuel Lujan

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INDEX TO RESPONSES

1. REVISED RESPONSE TO QUESTION 2 OF FEBRUARY 4, 1985 LETTER FROM REP. UDALL CONCERNING QUALITY ASSURANCE.
2. RESPONSE TO QUESTION DURING FEBRUARY 28, 1985 HEARING ON NRC EFFORTS IN REVIEWING LILCO'S OFFSITE EMERGENCY RESPONSE PLAN.
3. RESPONSE TO QUESTION DURING FEBRUARY 28, 1985 HEARING ON NUCLEAR REGULATORY RESOURCES IN GERMANY, JAPAN, FRANCE, AND CANADA.
4. RESPONSE TO QUESTIONS ON DIABLO CANYON SEISMICITY ADDRESSING:
 - (A) DOCUMENTATION IN THE DIABLO CANYON RECORD INDICATING THE RELATIVE SEISMICITY OF THE DIABLO CANYON SITE (DR. MYERS' POST-HEARING MEMO);
 - (B) USGS' VIEWS ON THE SITE SEISMICITY (REP. MARKEY'S HEARING QUESTION AND DR. MYERS' POST-HEARING MEMO); AND
 - (C) EXPANDED RESPONSE TO Q 3(A) & Q 3 (B) FROM REP. UDALL'S PRE-HEARING LETTER (DR. MYERS' POST-HEARING MEMO).
5. RESPONSES TO QUESTIONS IN REP. MCCAIN'S MARCH 12, 1985 LETTER REQUESTING NRC SUPPLEMENT THE HEARING RECORD.

1. REVISED RESPONSE TO QUESTION 2 OF FEBRUARY 4, 1985 LETTER FROM REP. UDALL CONCERNING QUALITY ASSURANCE.

QUESTION 2. IN RECENT LICENSING ACTIONS, THE COMMISSION'S FINDING THAT THE COMPLETED REACTORS COMPLIED WITH THE COMMISSION'S SAFETY REGULATIONS APPEARS TO HAVE BEEN BASED ON INSPECTIONS AND AUDITS CONDUCTED AFTER CONSTRUCTION HAD BEEN VIRTUALLY COMPLETED.

- (A) PLEASE DESCRIBE THE CRITERIA USED BY THE COMMISSION IN POST-CONSTRUCTION INSPECTIONS AND AUDITS TO ESTABLISH COMPLIANCE WITH REGULATIONS IN CIRCUMSTANCES WHERE SIGNIFICANT QUALITY ASSURANCE BREAKDOWNS HAVE OCCURRED.

ANSWER.

THE COMMISSION'S FINDING THAT REACTOR FACILITIES HAVE BEEN BUILT IN ACCORDANCE WITH THE APPLICATION FOR LICENSE AND THE RULES AND REGULATIONS OF THE COMMISSION IS BASED ON THE COMBINED EFFORTS OF THE STAFF THROUGH LICENSING EVALUATIONS, INSPECTIONS CONDUCTED THROUGHOUT THE CONSTRUCTION AND TESTING OF THE FACILITY, AND THE INFORMATION PROVIDED BY THE APPLICANT. IN SOME CASES INFORMATION SUPPLIED BY THE APPLICANT MAY INCLUDE RESULTS OF INDEPENDENT REVIEWS OF SUCH AS THOSE FROM INDEPENDENT DESIGN VERIFICATION PROGRAMS AND CONSTRUCTION ASSESSMENT PROGRAMS.

THE NRC HAS NOT ESTABLISHED CRITERIA SPECIFICALLY DESIGNED TO BE USED IN CIRCUMSTANCES WHERE SIGNIFICANT QUALITY ASSURANCE BREAKDOWNS HAVE OCCURRED. INSTEAD, WHERE SPECIAL PROBLEMS ARE

QUESTION 2 (CONTINUED)

QUESTION 2. (B) PLEASE INDICATE FOR THE RECORD THE REGULATIONS, REGULATORY GUIDES AND OTHER DOCUMENTS WHICH SPECIFY AND ENUMERATE CRITERIA FOR SUCH POST-CONSTRUCTION INSPECTIONS AND AUDITS.

ANSWER.

THE REGULATIONS, REGULATORY GUIDES AND OTHER DOCUMENTS USED FOR POST-CONSTRUCTION INSPECTIONS AND AUDITS ARE THE SAME AS THOSE WHICH THE APPLICANT DESCRIBED IN HIS APPLICATION FOR LICENSE. AS DESCRIBED ABOVE, CRITERIA FOR POST-CONSTRUCTION INSPECTION AND AUDITS ARE NOT DIFFERENT FROM THE CRITERIA USED THROUGHOUT THE CONSTRUCTION PROCESS; ONLY THE TIMING AND METHODS VARY TO ADDRESS SPECIFIC PROBLEMS.

QUESTION 2 (CONTINUED)

IDENTIFIED THROUGH IDENTIFICATION OF PROGRAM BREAKDOWNS OR ALLEGATIONS, TESTING, OR OTHER MEANS, SPECIAL REVIEWS OR INSPECTIONS BY THE STAFF MAY BE USED TO PROVIDE ADDITIONAL ASSURANCE THAT THE FACILITY HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPLICATION AND RULES AND REGULATIONS OF THE COMMISSION. IF THE NRC DETERMINES THAT QA BREAKDOWNS HAVE NOT PRODUCED HARDWARE DEFICIENCIES, THE COMMISSION RELIES UPON UPDATED ANALYSIS TO ESTABLISH THIS FACT AND NO FURTHER ACTIONS ARE REQUIRED. IN THOSE CASES WHERE SIGNIFICANT QUALITY ASSURANCE BREAKDOWNS HAVE RESULTED IN HARDWARE NOT CONFORMING TO THE COMMITTED TO ACCEPTANCE CRITERIA, THE NRC DETERMINES COMPLIANCE OF THE PLANT WITH THE COMMISSION'S RULES AND REGULATIONS, BY USING VARIOUS METHODS. IN SOME CASES, WHEN THE INITIAL ACCEPTANCE CRITERIA ARE NOT MET, MODIFICATIONS ARE MADE TO REMEDY HARDWARE DEVIATIONS. IN SOME OTHER CASES, MORE DETAILED EVALUATIONS ARE REQUIRED TO DEMONSTRATE THAT CODE MARGINS AND OTHER REGULATORY REQUIREMENTS ARE MET BY THE IN-SITU PLANT STRUCTURES, EQUIPMENT AND COMPONENTS. IN OTHER CASES, THE IN-SITU DEVIATIONS WERE FOUND TO BE INSIGNIFICANT FOR ESTABLISHING CONFORMANCE WITH THE COMMISSION'S REGULATIONS AND WERE THEREFORE ACCEPTABLE.

COMMISSIONER ASSELSTINE HAS THE FOLLOWING COMMENT: I THINK THE ABOVE TRANSLATES INTO THE FOLLOWING. IN SOME CASES, THE REMEDIAL ACTIONS MAY RESULT IN A HIGHER ASSURANCE OF SAFETY ADEQUACY THAN HAD THERE BEEN NO BREAKDOWN IN THE QUALITY ASSURANCE PROGRAM, WHILE IN OTHER CASES, THE DEGREE OF CONFIDENCE MAY BE LESS. IT ALL DEPENDS ON THE CIRCUMSTANCES OF THE PARTICULAR CASE.

2. RESPONSE TO QUESTION DURING FEBRUARY 28, 1985 HEARING ON NRC EFFORTS IN REVIEWING LILCO'S OFFSITE EMERGENCY RESPONSE PLAN.

QUESTION 2. IDENTIFY THE AMOUNT NRC SPENT ON REVIEWING LILCO'S OFFSITE EMERGENCY PLAN.

ANSWER.

IN MAY 1983, THE LONG ISLAND LIGHT COMPANY (LILCO) SUBMITTED INTERIM OFFSITE PLANS FOR THE SHOREHAM NUCLEAR POWER STATION. IN DECEMBER 1983 AND JULY 1984, REVISIONS 3 AND 4, RESPECTIVELY, (CURRENTLY IDENTIFIED AS THE LILCO TRANSITION PLAN) WERE RECEIVED FOR REVIEW. ALL OF THESE PLANS WERE SUBMITTED TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR REVIEW, AS FEMA HAS THE RESPONSIBILITY FOR EVALUATING THE ADEQUACY OF OFFSITE EMERGENCY PREPAREDNESS. THE NRC HAS ALSO REVIEWED THESE PLANS, BECAUSE OF OUR INTEREST IN THEIR INTERFACE WITH THE LILCO ONSITE EMERGENCY PLAN AND THE NRC'S RESPONSIBILITY TO PROVIDE AN OVERALL ASSESSMENT OF ADEQUACY OF BOTH ONSITE AND OFFSITE EMERGENCY PREPAREDNESS. APPROXIMATELY 480 HOURS HAVE BEEN SPENT BY THE NRC FOR THIS REVIEW, WHICH INCLUDES 160 HOURS BY THE NRC MEMBER OF THE REGIONAL ASSISTANCE COMMITTEE IN SUPPORT OF THE FEMA REVIEW ACTIVITIES. IN ADDITION, THE ATOMIC SAFETY AND LICENSING BOARD SPENT 70 DAYS IN HEARINGS AND 13 DAYS IN PREHEARING CONFERENCES IN CONSIDERING THE ADEQUACY OF THESE PLANS. APPROXIMATELY 125 PERSON DAYS WERE SPENT BY STAFF ATTORNEYS AND PARALEGALS PARTICIPATING IN THESE HEARINGS. AN ADDITIONAL 345 PERSON DAYS WERE SPENT BY STAFF ATTORNEYS AND PARALEGALS IN PREPARING FOR THE HEARINGS AND IN DRAFTING POST HEARING DOCUMENTS.

4. RESPONSE TO QUESTIONS ON DIABLO CANYON SEISMICITY ADDRESSING:
- (A) DOCUMENTATION IN THE DIABLO CANYON RECORD INDICATING THE RELATIVE SEISMICITY OF THE DIABLO CANYON SITE (DR. MYERS' POST-HEARING MEMO);
 - (B) USGS' VIEWS ON THE SITE SEISMICITY (REP. MARKEY'S HEARING QUESTION AND DR. MYERS' POST-HEARING MEMO); AND
 - (C) EXPANDED RESPONSE TO Q 3(A) & Q 3 (B) FROM REP. UDALL'S PRE-HEARING LETTER (DR. MYERS' POST-HEARING MEMO).



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 25, 1985

MEMORANDUM FOR: Carlton J. Kammerer, Director
Office of Congressional Affairs

FROM: *J. E. Zech*
John E. Zech, Director
Office of Policy Evaluation

SUBJECT: REQUEST FOR INFORMATION ON DIABLO CANYON

As requested in your memorandum of March 20, 1985, we are supplying the attached information which is germane to the seismicity topic.

Attachments:

1. 13 NRC at 993-994 (1981)
2. 10 CFR Part 100, Appendix A, Section II
3. Board Exh. 2J, Fig. 2
4. Smith, fol. Tr 5490 at p. 14
5. Hoch, fol. Tr 6879 at p. 11
6. Board Exh. 2F
7. Joint Affidavit of R. Rothman, R. McMullen, L. Reiter and S. Brocoun, NRC Staff's Answer to Joint Intervenors' Motion to Reopen the Record on Seismic Issues, August 1, 1984 at p. 17.

cc: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech
H. E. P. Plaine
S. J. Chilk
W. J. Dircks
H. R. Denton

Contact:
Cookie Ong, OPE
X-43302

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ATTACHMENT 1

NURBS-0700
Vol. 13, No. 6
Pages 772-114

U.S. NUCLEAR REGULATORY COMMISSION

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883-894, 895. Further, as the occurring "PUA can contribute to this proceeding" by furnishing "financial, technical, interview survey. Although the stay is that, PUA may yet elect to "grasp this".

1-642 dated

FOR THE APPEAL BOARD

C. Jean Bishop
Secretary to the Appeal Board

13 NRC 903 (1981)

ALAB-444

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges

Richard S. Solomon, Chairman
Dr. John H. Bush
Dr. W. Reed Johnson

In the Matter of

Docket Nos. 50-278 OL
50-323 OL
(Seismic Proceeding)

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear
Power Plant, Units 1 & 2)

June 18, 1981

Following an evidentiary hearing on seismic issues, the Appeal Board affirms (except for security plan issues which are before another Board), two partial initial decisions rendered by the Licensing Board on the Pacific Gas and Electric Company's application for licenses to operate the Diablo Canyon Nuclear Power Plant (LBP-79-36, 10 NRC 453 (1979); and LBP-79-19, 7 NRC 989 (1978).

RULES OF PRACTICE: STANDING TO APPEAL

In Commission practice as in judicial proceedings, only a party aggrieved may appeal.

RULES OF PRACTICE: BRIEFS

Issues not briefed may be deemed waived.

CFR Part 100, Appendix A,

us, to fulfill the requirements
of OBE values, the applicant

and average return periods for
peak effective acceleration at
two considered the factors of
site characteristics of local
in III(d) of Appendix A to 10

They establish that,

(maximum vibratory ground
lowest average return period
the analyses is 275 years. The
for a 40 year plant lifetime is

at minimum of 110 years.²⁰
d as joint intervenors' request)
3E causing an acceleration of
s. Trifunac's preferred results
return period of approximately
from 0.18g to 0.24g would be

ation Reports (SER's) for some of the
and OBE values:

OBE

0.1g

0.2g

0.3g

0.4g

manager for Diablo Canyon) posted
a staff of the recurrence probability of
s the applicant's conclusions. Tr. 8423-
manhattan Report," June 8, 1978. See

Dr. Trifunac was not questioned directly about his OBE calculations &
this proceeding.²¹ A staff witness, however, characterized Dr. Trifunac's
position on the OBE as being essentially in agreement with the staff,
making the observation that (Tr. 8424):

Dr. Trifunac took his probability study and answered the ACRS as to
what he thought the return period was, and he felt it was within our
criteria as well. So he was with a different number, but, you know, he's
in agreement with our conclusion.

Not only was this unchallenged by joint intervenors, their counsel expressly
agreed "that Dr. Trifunac endorsed the selection of the OBE" (Tr. 9235). In
all the circumstances, we conclude that the OBE approved by the Licensing
Board is both permissible under the regulations and sustained by the
record.

Intervenors' brief calls for one further comment. It states at page 80 that
"where a nuclear plant is located in an area of high seismicity, as is the case
with DCNPP, an exemption to the regulatory requirements [such as those
in 10 CFR Part 100, Appendix A, Section II] is not justified." The record,
however, does not bear out the claim that the Diablo Canyon site is one of
"high seismicity." The term refers to the frequency of seismic events. Drs.
Anderson and Trifunac plotted for the years 1950 through 1974 the known
epicenters in the region, centered around Diablo Canyon, between 33° and
37° north latitude and 119° to 123° west longitude.²² That plot, and the
calculated low recurrence rate of an earthquake of the magnitude assigned

²⁰The applicant made several estimates of the 0.2g return period (D-LL 41, Table 41.5 at p.
41.22 gives 275 years, 600 years and 800 years). These are obviously far longer than Dr.
Trifunac's. Applicant provided several critical analyses of Dr. Trifunac's return period
estimates (D-LL 24) concluding generally that, while the methodology was correct,
assumptions made along the way yielded return periods that were too short. Dr. Laro, citing
Dr. Trifunac's work, was in turn critical of the applicant's analyses and found that their return
periods too long (Board Exhibit 2C at pp. 8-12).

We have reviewed all of these papers as well as what the oral examination of the various
witnesses brought forth. While we need not decide between the methods because both give
return periods which meet the NRC's OBE criteria, we are inclined to believe Dr. Trifunac's
predictions overly conservative, i.e., they yield too short return periods. Our inclination stems
from two principal factors. First, Dr. Trifunac assigns much of the higher magnitude activity in
the region chosen for the data base to activity on the Hengri Fault. His choice of the
distribution of seismic activity does not appear consistent with the record of epicenters shown
in Figures 1, 2 and 3 of his paper (Board Exhibit 2D). Second, Dr. Trifunac uses the Trifunac
and Brady correlation to define motion attenuation relationships. We believe that the record
before us shows that these predictions are likely to yield peak acceleration values that are too
high in the near-field (see, e.g., Shuman IV-79 testimony, p. 1-5 and Figure 1-4) — the region that
would be affected by activity on the Hengri Fault.

²¹Board Exh. 23, Fig. 2.

the OBE, indicate that the region is at most one of low to moderate seismicity. See also Smith, fol. Tr. 5490 at p. 14.⁴⁰⁸

X

JOINT INTERVENORS' MOTION TO REOPEN THE RECORD FOR A SECOND TIME

The joint intervenors have moved us to reopen the record again, this time to receive into evidence USGS Open-File Report No. 81-365 dated March 1981, entitled, "Peak Horizontal Acceleration and Velocity from Strong-Motion Records Including Records from the 1979 Imperial Valley, California, Earthquake." The Governor supports the motion and the applicant and staff oppose it. Those favoring admission of the new report urge that it supports the contention that 0.75g is not a conservative estimate of peak acceleration for the Hosgri earthquake; those objecting contend that it does no such thing.⁴⁰⁷

We have examined the USGS report with care. We note that, while its analysis is new, the seismic motion records underlying it are not. For the most part these either were or might have been addressed at the reopened hearing on IV-79.⁴⁰⁸ Indeed, the authors of USGS Open-File Report 81-365 expressly acknowledge (at p. 19) that "[u]npublished strong motion data were generously supplied to us by [inter alia] J.N. Brune on behalf of the University of California at San Diego." Dr. Brune was a principal witness

⁴⁰⁸Intervenors raised another matter with respect to the OBE. They questioned whether the seismic specification of non-safety related plant equipment to an event of 0.20g might result in equipment failures that could jeopardize the plant's safety-related systems (Joint Intervenors' Brief at p. 78). Challenges of this type — "systems interactions" — are in fact the subject of questions directed to the applicant by the staff as a follow-up of concerns generated by the Three Mile Island Unit 2 (TMI-2) accident. (See NUREG-0660).

In response to a query by this Board, counsel for the staff outlined the status of the review of this matter and also pointed out that it was before the Licensing Board as a part of its consideration of the panoply of post-TMI issues. NRC Staff Response to Board's Request for Information on Systems Interactions, dated December 12, 1980. In these circumstances, our consideration of the matter would be premature.

⁴⁰⁷The joint intervenors called this USGS Report to our attention by letter of April 13, 1981. In response to our order of April 15 calling for comments on the report, the intervenors formally moved on April 27 to reopen the record to receive it. In papers filed that same day, the Governor supported and the applicant and staff objected to that proposal.

⁴⁰⁶In addition to seismic records from IV-79 (for which we previously reopened the record and have already considered, see ALAB-598, *supra*, 11 NRC 876), the USGS Report also reviews strong motion records from earthquakes at Livermore Valley (January 27, 1980), Horse Canyon (February 25, 1980) and Coyote Lake (August 6, 1979). USGS Report at pp. 31, 35-37. The reopened hearing was held in October 1980 and we indicated specifically that we would consider all relevant evidence bearing on the reopened issues. See fn. 14, *supra*.

code of federal regulations

Energy

ATTACHMENT 2

10

PARTS 0 TO 199

Revised as of January 1, 1984



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Title 10—Energy

Chapter 1—Nuclear Regulatory Commission

Part 100, App. A

(8) A population center distance of at least one and one-third times the distance from the reactor to the outer boundary of the low population zone, as specified in this guide, the boundary of the population center shall be determined upon consideration of population distribution. Political boundaries are not controlling in the application of this guide. Where very large cities are involved, a greater distance may be necessary because of total isolated population dose consideration.

(9) For sites for multiple reactor facilities consideration should be given the following:

(1) If the reactors are independent the extent that an accident in one reactor would not initiate an accident another, the size of the exclusion area, low population zone and population center distance shall be fulfilled in respect to each reactor individually. The envelopes of the plan overlay of the areas so calculated shall not be taken as their respective boundaries.

(2) If the reactors are interconnected to the extent that an accident in one reactor could affect the safety of operation of any other, the size of the exclusion area, low population zone and population center distance shall be based upon the assumption that all interconnected reactors emit their postulated fission product releases simultaneously. This requirement may be used in relation to the degree of coupling between reactors, the probability of concomitant accidents and probability that an individual did not be exposed to the radiation dose from simultaneous releases. The applicant would be expected to justify the satisfaction of the Commission the basis for such a reduction in source term.

(3) The applicant is expected to show that the simultaneous operation of multiple reactors at a site will not result in total radioactive effluent release beyond the allowable limits of feasible regulations.

For further guidance in developing exclusion areas, the low population zone, the population center distance, refer to Technical Information Document 14844, dated March 22, 1982, which describes a procedural method and a sample

calculation that result in distances roughly reflecting current siting practices of the Commission. The calculations described in Technical Information Document 14844 may be used as a point of departure for consideration of particular site requirements which may result from evaluation of the characteristics of a particular reactor. No purpose and method of operation.

Copies of Technical Information Document 14844 may be obtained from the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., or by writing the Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20540.

(17) FR 3849, Apr. 12, 1962, as amended at 31 FR 4470, Mar. 18, 1966; 38 FR 1273, Jan. 11, 1973; 40 FR 5793, Mar. 3, 1975; 40 FR 26327, June 24, 1975.

APPENDIX A—SEISMIC AND GEOLOGIC SITING CRITERIA FOR NUCLEAR POWER PLANTS

I. PURPOSE

General Design Criterion 3 of Appendix A to Part 100 of this chapter requires that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and strikes without loss of capability to perform their safety functions. It is the purpose of these criteria to set forth the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants and the suitability of the plant design bases established in consideration of the seismic and geologic characteristics of the proposed sites.

These criteria are based on the limited geophysical and geological information available to date concerning faults and earthquake occurrence and effect. They will be revised as necessary when more complete information becomes available.

II. SCOPE

These criteria, which apply to nuclear power plants, describe the nature of the investigations required to obtain the geologic and seismic data necessary to determine site suitability and provide reasonable assurance that a nuclear power plant can be constructed and operated at a proposed site without undue risk to the health and safety of the public. They describe procedures for determining the quantitative vibratory ground motion design basis at a site due to earthquakes and describe the information needed to determine whether and to what extent a nu-

clear power plant need be designed to withstand the effects of certain faults. Other seismic and seismic factors required to be taken into account in the siting and design of nuclear power plants are identified.

The investigations described in this appendix are within the scope of investigations permitted by § 50.10(c)(1) of this chapter.

Each applicant for a construction, etc., shall investigate all seismic and geologic factors that may affect the design and operation of the proposed nuclear power plant and evaluate the effects of such factors as: irrespective of whether such factors are explicitly included in these criteria. Additional investigations and/or more conservative design criteria may be required for sites located in areas having complex geology or in areas of high seismicity. If an applicant believes that the particular seismology and geology of a site indicate that some of these criteria, or portions thereof, need not be satisfied, the specific sections of these criteria should be identified in the license application, and supporting data to justify clearly such departures should be presented.

These criteria do not address investigations of volcanic phenomena required for sites located in areas of volcanic activity. Investigations of the volcanic aspects of such sites will be determined on a case-by-case basis.

III. DEFINITIONS

As used in these criteria:

(a) The "magnitude" of an earthquake is a measure of the size of an earthquake and is related to the energy released in the form of seismic waves. "Magnitude" means the numerical value on a Richter scale.

(b) The "intensity" of an earthquake is a measure of its effects on man, on man-built structures, and on the earth's surface at a particular location. "Intensity" means the numerical value on the Modified Mercalli scale.

(c) The "Safe Shutdown Earthquake" (SSE) is that earthquake which is based upon an evaluation of the maximum earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material. It is that earthquake which produces the maximum vibratory ground motion for which certain structures, systems, and components are designed to remain functional. These structures, systems, and components are those necessary to assure:

—The "Safe Shutdown Earthquake" defines that earthquake which has commonly been referred to as the "Design Basis Earthquake."

ATTACHMENT 3

5-1 (4)

UNIFORM RISK ABSOLUTE ACCELERATION SPECTRA
FOR THE DIABLO CANYON SITE, CALIFORNIA

by

J. G. Anderson and M. D. Trifunac.

A Report to the Advisory Committee on Reactor Safeguards,
U. S. Nuclear Regulatory Commission



NUCLEAR REGULATORY COMMISSION

DocId: 32578227 Official Ed. No. 2.1
In the matter of PERE

Staff IDENTIFIED 12-8-78
Applicant RECEIVED 2-8-79
Interviewer REJECTED
County Off. _____
Contractors _____ DATE _____
Other Card _____
Inspector CAV Blum

30 December, 1976

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Chapter 11 or Appendix A discusses the properties of uniform risk Fourier amplitude spectra. The results are, for the most part, applicable to other spectra such as SA or PSV. The major finding is that the chosen model of seismicity has a prominent effect on the shape and the amplitudes of the resulting uniform risk spectrum. Distinct models of the seismicity of a region, which interpret the same historical activity and tectonic models in a different way, can lead to quite different uniform risk spectra.

In Appendix I, P_1 was related to P_2 using a Gaussian distribution function. For SA in this report we have used a Rayleigh distribution function (Udwadia and Trifunac, 1974); the quality of fit of the distribution function to the data points is comparable to that in Appendix I.

ACTIVE FAULTS AND PAST SEISMICITY NEAR DIABLO CANYON

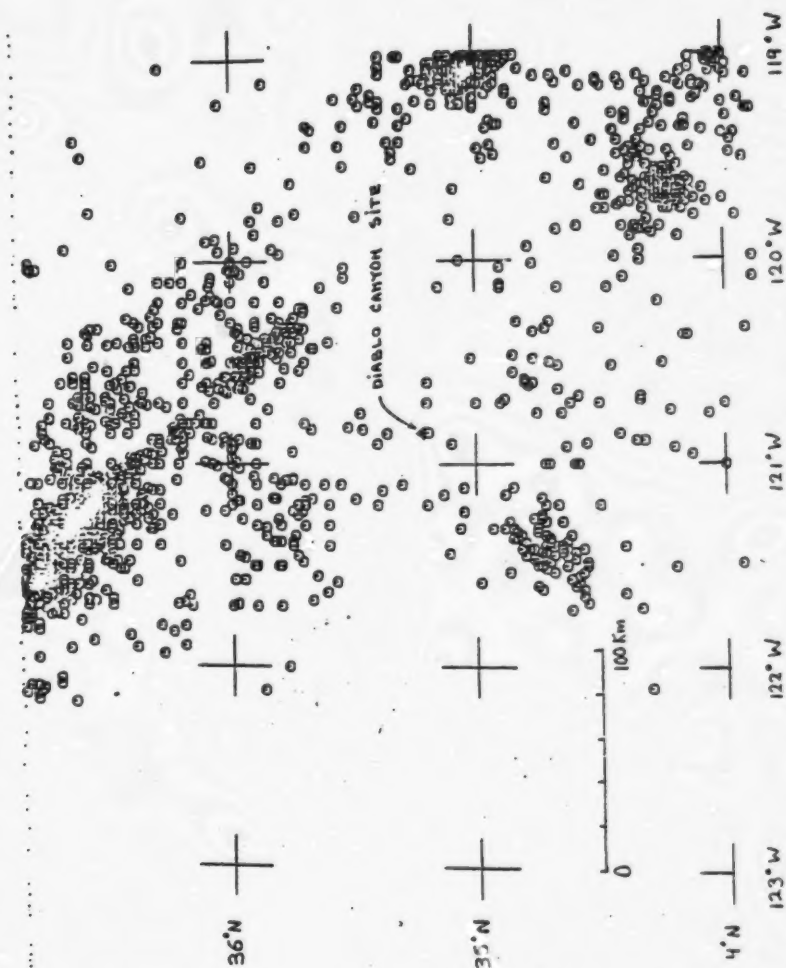
Figure 1 shows those faults in offshore and coastal central California which are indicated on the Fault Map of California (Jennings, 1975) to have movement in the historic or Quaternary periods (about two million years). In addition Fig. 1 shows the location of the easternmost strands of the Hosgri fault zone, also from Jennings (1975).

Figures 2 and 3 show some of the historical seismicity of the same region. Figure 2 shows the epicenters of all those events listed on the Earthquake Data File (Meyers and

von Hake, 1976) which occurred near Diablo Canyon in the time interval of January 1950 to December 1974 having magnitude (M_L) at least 2.25. Figure 3 shows events in the same region with magnitudes over 4.25 which occurred between January 1932 and December 1974. On both figures, the earliest year represents approximately the time when coverage of that magnitude range reached present levels.

Comparison of Figures 1-3 shows that considerable activity occurred along the active section of the San Andreas Fault. Additional activity in the eastern portion of the map is associated with aftershocks of the 1952 Kern County earthquake.

Figures 4-9 illustrate how this data was examined for completeness. These figures show the number of events in the magnitude ranges $2 \leq M < 3$ (Figure 4), $3 \leq M < 4$ (Figure 5), $4 \leq M < 5$ (Figure 6), $5 \leq M < 6$ (Figure 7), $6 \leq M < 7$ (Figure 8), and $7 \leq M < 8$ (Figure 9) which are listed on the Earthquake Data File for Central Coastal California each year between 1890 to 1974. Our copy of the data file contains some events for 1975 and 1976, but the listing is not complete. The geographical boundaries of the region tested are 119° W to 123° W and 33° N to 37° N. From the above mentioned figures, one can see how the increasing number of seismic stations has led to detection of a larger number of events each year. Assuming the seismicity of the



ATTACHMENT 4

1 is stri .an from the record, then the parties do not have
2 the responsibility to address it in their proposed findings
3 of fact. Isn't that true?

4 MR. TOURTELLOTTE: Yes.

5 MR. FLEISCHAKER: Well, in view of the Board's
6 motion I will withdraw my objection to the second part of the
7 testimony. And I have no further objections.

8 MRS. BOWERS: Mr. Tourtelotte, the testimony
9 is being offered at this time.

10 MR. TOURTELLOTTE: No objection.

11 MRS. BOWERS: The testimony will be admitted
12 into evidence, Mr. Norton, and will be physically incorporated
13 into the record as if read.

14 (The testimony follows:)

TESTIMONY OF
DR. STEWART SMITH
ON BEHALF OF
PACIFIC GAS AND ELECTRIC COMPANY
DECEMBER 4, 1978
DOCKET NOS. 50-275, 50-323

A. Original Seismic Evaluation

The original specification of earthquake hazards at the Diablo Canyon site was made jointly by the late Dr. Hugo Benioff and myself in 1967. We concluded at that time that a conservative estimate of future earthquake activity here should include the following:

1. A great earthquake may occur on the San Andreas fault at a distance from the site of more than 48 miles. It would be likely to produce surface rupture along the San Andreas fault over a distance of 200 miles with a horizontal slip of about 20 feet and a vertical slip of 3 feet. The duration of strong shaking from such an event would be about 40 seconds, and the equivalent magnitude would be 8.5.

2. A large earthquake on the Nacimiento fault at a distance from the site of more than 20 miles would be likely to produce a 60 mile surface rupture along the Nacimiento fault, a slip of 6 feet in the horizontal direction, and have a duration of 10 seconds. The equivalent magnitude would be 7.25.

3. Possible large earthquakes occurring on offshore fault systems that may need to be considered for the generation of seismic sea waves are listed below:

E. Seismicity

The Southern Coast Range Province in which Diablo Canyon is located is an area of low to moderate seismicity. Major activity is centered on the San Andreas fault about 70 km to the east, and in the Transverse Range Province about the same distance to the south. Earthquakes are, however, not restricted to these zones, and the Southern Coast Range Province has experienced some modest amounts of seismic activity during historic times. There are several reports of locally felt shocks during the last century which did some damage in San Luis Obispo County. Intensities are estimated at VIII Rossi Forel (VII MM). The largest instrumentally recorded earthquake in the region appears to be the 1952 Bryson shock, with a magnitude of 6.0, and maximum intensity of VII MM. Its location makes the most probable association the Nacimiento fault, although no direct confirmation of this has been possible. The Southern Coast Range Province includes a large number of intertwined northwest trending faults, which have varying degrees of continuity. The Nacimiento fault does not appear greatly distinguished from any of these in terms of length, continuity, or slip rate. Our approach from the beginning has been to assume that all of these faults are seismically capable, and that their potential activity in the future can best be estimated by examining their geologic record of slip in the past.

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as if read.

(The professional qualifications and the
testimony of John B. Hoch follow:)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 50-275
	)	50-323
PACIFIC GAS AND ELECTRIC COMPANY	)	
	)	Applicants Ex. No. 7
(Diablo Canyon Nuclear Power	)	
Plant, Units No. 1 and 2)	)	December 1978

PROFESSIONAL QUALIFICATIONS
OF WITNESSES FOR
PACIFIC GAS AND ELECTRIC COMPANY

Name: John B. Hoch

Title or Position: Project Engineer

Degrees: BS Mechanical Engineering, University of Idaho,
1959; Graduate Study - U.C. Berkeley College of
Engineering, 1961-1962

Professional Experience: Registered Mechanical Engineer,
State of California; Registered Nuclear Engineer,
State of California; Employed by PGandE since
1958. Experience as follows:
1958-1961--Power Plant Engineer at Contra Costa
and Pittsburg Power Plants. Start-up Engineer at
Pittsburgh Power Plant.
1962-1969--Mechanical Engineer. Performed mechan-
ical design for fossil and nuclear projects.

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1 on Reactor Safeguards and Atomic Safety and Licensing Boards
2 for those applications would appear to have also accepted
3 the Staff's position. The Company's letter of April 11,
4 1978 on this subject cited the results of several analyses
5 made by the Company and its consultant which estimate
6 exceedance probabilities and average return periods for
7 various values of peak instrumental and peak effective
8 acceleration at the Diablo Canyon site. The results of
9 these analyses have been submitted in support of the operating
10 license application for Diablo Canyon and are included as
11 report D-LL 11, D-LL 28, D-LL 41, and D-LL 45 in Appendix D
12 to the Hosgri Report. The analyses considered the factors
13 of regional and local geology and specific characteristics
14 of local subsurface material as required by Section III(d)
15 of Appendix A to 10 CFR Part 100. Since the analyses employed
16 a number of variations in methodology, the results show a
17 range of exceedance probabilities and average return periods
18 for a given site acceleration. For a peak instrumental
19 acceleration (maximum vibratory ground acceleration) at the
20 site of 0.20g, the lowest average return period computed by
21 any of the methods used in the analyses is 275 years. The
22 corresponding exceedance probability for a 40 year plant
23 lifetime is approximately 14.5 percent. The Company believes
24 that 275 years is a very conservative estimate of the average
25 return period associated with the Design Earthquake for
26 Diablo Canyon. Since this average return period is more

1 than twice the 110 year period specified in the Regulatory
2 Staff's stated acceptance criteria, it is clear that the
3 Design Earthquake should be acceptable as the Operating
4 Basis Earthquake for the Diablo Canyon Units.

5 These considerations were extensively discussed
6 with the Advisory Committee on Reactor Safeguards, during
7 its Subcommittee meeting for Diablo Canyon on June 15, 1978.
8 In its July 14, 1978 letter on Diablo Canyon, the Committee
9 found an Operating Basis Earthquake with an acceleration of
10 0.20g acceptable.

11 It is my opinion that the use of an Operating
12 Basis Earthquake of 0.2g at Diablo Canyon does not create an
13 undue risk to the public health and safety and fully complies
14 with the overall intent of 10 CFR Part 100, Appendix A.

15 Intervenors' contention IIA5 is as follows:

16 "The Applicant has failed to demonstrate,
17 through the use of either appropriate
18 dynamic analyses or qualification tests
19 (or equivalent static load method where
20 appropriate), that Category I structures,
21 systems, and components will perform as
22 required during the seismic load of the
safe shutdown earthquake, including
aftershocks and applicable concurrent
functional and accident-induced loads,
and that Category I structures, systems
and components will be adequate to
assure:

- 23 (A) the integrity of the reactor
24 coolant pressure boundary,
25 (B) the capability to shut down
26 the reactor and maintain it in
a safe condition, or



ATTACHMENT 6

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20548

Attaches

June 12, 1978

C. P. Siess

DIABLO CANYON CONSULTANT'S REPORT

Attached for your review is a copy of a report by our consultant, Dr. M. D. Trifunac, regarding the seismic reevaluation of Diablo Canyon. Copies of this report are being provided to the other members of the ACRS and the NRC Staff for their information.



J. C. McKinley
J. C. McKinley, Chief
Project Review Branch No. 1

Attachment:
H.D. Trifunac comments dated 6/8/78

cc: ACRS Members
R. F. Fraley, ACRS
M. W. Libarkin, ACRS
E. G. Case, NRR (P-428)
R. Boyd, DDMH (Phil-278)
J. Stolz, LMR-1 (Phil-144)
D. Allison, LMR-1 (Phil-144)
L. Crocker, DDMH (Phil-278)
J. P. Knight, DSS (P-9328)

NUCLEAR REGULATORY COMMISSION

Document No. <u>5251622</u>	Official File No. <u>2F</u>
In the matter of <u>PCFE</u>	
Staff	IDENTIFIED <u>2-8-78</u>
Assigned	RECEIVED <u>2-8-78</u>
Subscribed	RECEIVED
Copy to	DATE
Contracted	DATE
Other <u>Chief</u>	RECEIVED
Supervisor <u>CP Blum</u>	

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UNIVERSITY OF SOUTHERN CALIFORNIA

UNIVERSITY PARK

APR 11 1978

LOS ANGELES, CALIFORNIA 90089

SCHOOL OF ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING

June 8, 1978

Mr. J.C. McKinley
ACRS
USNRC
Washington, D.C. 20555

Dear Mr. McKinley,

I am enclosing my calculations for peak ground acceleration at the Diablo Canyon Site in California. To save time, I chose to derive the results you requested from the existing report to ACRS by Anderson and Trifunac (1977). Consequently, the following results also represent the amplitudes of Uniform Risk Absolute Acceleration Spectra at the natural period of single-degree-of-freedom system equal to 0.04 sec.

In our previous work (Anderson and Trifunac, 1971), we employed four seismicity models for the area between 119°W to 123°W and 33°N to 37°N. These models (A, B, C, D and E) represent different interpretations of possible future seismic activity near the Diablo Canyon Site. Detailed discussion and descriptions of these models are combined in Anderson and Trifunac (1977) report. Tables I and II summarize the essential characteristics of these models.

Figures 1 and 2 present the amplitudes of Uniform Risk Absolute acceleration spectra at $T = 0.04$ sec. Figure 1 is based on the assumption that earthquakes can be modeled by a Poisson sequence in time. Figure 2 presents results for the "Literal Model"; i.e., where it is assumed that all events in Table II will occur during the next 50 years. Both figures are based on $s=1$ (intermediate site conditions, see Anderson and Trifunac, 1977).

You requested the estimates of peak ground acceleration that would have the probability of at least one exceedance equal to 0.30 and for the time window of 40 years. These accelerations correspond to the probability of at least one exceedance equal to 0.36 during a 50 year time window for which the calculations are readily available. Table III summarizes the results.

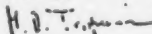
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Mr. J.C. McKinley
June 8, 1978

Page Two

It appears that models B, C, D and E are approximately consistent, while Model A may represent too little activity when one considers the motion of Pacific Plate relative to the North American Plate (Anderson and Trifunac, 1977). Finally, I would prefer to use Poisson model of earthquake occurrence in time for the consideration of ONE at the Diablo Canyon Site.

Sincerely,



M. D. Trifunac

P.S. I am enclosing the final version of my "Comments on Seismic Design Levels for Diablo Canyon Site in California."

MDT:gd

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TABLE III

Peak Accelerations in g's which have the Probability (equal to 0.30) of at least One Exceedance During Time Window of 40 Years at Diablo Canyon Site

<u>Seismicity Model</u>	<u>Poisson Sequence in Time</u>	<u>Literal Sequence in Time</u>
A	.18	.28
B	.24	.52
C	.24	.42
D	.22	.31
E	.24	.51

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ATTACHMENT 7

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant
Units 1 and 2)

}
Docket Nos. 50-275 OL
50-323 OL

NRC STAFF'S ANSWER TO JOINT INTERVENORS'
MOTION TO REOPEN THE RECORD ON SEISMIC ISSUES

Lawrence J. Chandler
Special Litigation Counsel

August 1, 1984

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant
Units 1 and 2)

}
Docket Nos. 50-275 OL
50-323 OL

NRC STAFF'S ANSWER TO JOINT INTERVENORS'
MOTION TO REOPEN THE RECORD ON SEISMIC ISSUES

I. INTRODUCTION

On July 16, 1984, Joint Intervenors filed a Motion to Reopen the Record on Seismic Issues. In this Motion, supported by an attached affidavit of Dr. James Brune, Joint Intervenors argue that new, significant safety information, derived principally from recent earthquakes and analyses, affects explicit determinations made by the Appeal Board in ALAB-644, 13 NRC 903 (1981) and thus reopening the record is warranted.

For reasons discussed below, the NRC staff opposes the Motion and urges that it be denied.

II. BACKGROUND

As relevant to the specific matters challenged in the Motion, the Appeal Board, following a reopened hearing before it regarding information concerning the 1979 Imperial Valley earthquake (IV-79) and on appellate review of the Licensing Board's seismic decision, LBP-79-26, 10 NRC 453 (1979), affirmed the finding that "7.5 M is the largest magnitude earthquake likely on the Hosgri" (ALAB-644, 13 NRC at 923), and, after considering

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their view that there has been a "consistent pattern of major seismic activity" in recent years. (Motion at 16)

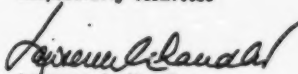
The Eaton paper relied on by Dr. Brune (Open File Report 84-477) discusses six earthquakes, the locations of which extend over a distance of almost 300 kilometers. Of the six events, only one, the Pt. Sal event of May 29, 1980, however, appears to have an epicenter near the Hosgri fault zone, and based on fault plane solutions described by Eaton, even that event is associated with faulting that strikes diagonally across rather than parallel to the mapped strands of the Hosgri fault. The largest of the six events, the 5.9 Santa Barbara earthquake, is associated with faulting in a different tectonic setting, the Transverse Ranges, an area of higher seismicity and recognized recent tectonic movement. It is thus inappropriate to take these events, occurring over a widely spread area, and use them to imply a higher probability for the occurrence of a magnitude 7.5 or greater event near Diablo Canyon. (Affidavit at 15-17). In short, the Appeal Board's relative statement that the Diablo Canyon site is located in an area of low to moderate seismic activity remains correct.

In light of the above, it is clear that Joint Intervenors have not demonstrated that any of the new information is significant and would affect the Appeal Board's decision in ALAB-644.

IV. CONCLUSION

For the foregoing reasons, the Appeal Board's jurisdiction over the matters raised in this pending Motion has ceased to exist. Consequently, the Motion should be dismissed. If, notwithstanding the jurisdictional bar, the Motion is considered, Joint Intervenors have failed to satisfy the standards for reopening the record on seismic issues and thus, the Motion should be denied.

Respectfully submitted


Lawrence J. Chandler
Special Litigation Counsel

dated at Bethesda, Maryland
this 1st day of August, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of	}	Docket Nos. 50-2/5 OL
PACIFIC GAS AND ELECTRIC		50-323 OL
COMPANY		
(Diablo Canyon Nuclear		
Power Plant, Units 1 & 2	)	

JOINT AFFIDAVIT OF ROBERT L. ROTHMAN, RICHARD B. McMULLEN,
LEON REITER AND STEPHAN J. BROCOUM

STATE OF MARYLAND	}	ss.
COUNTY OF MONTGOMERY		

Robert L. Rothman, Richard B. McMullen, Leon Reiter and Stephan J.
Brocoum, being of legal age and duly sworn, depose and say as follows:

1. I, Robert L. Rothman, a seismologist, am employed by the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission. A copy of my professional qualifications is attached to this affidavit.

I, Richard B. McMullen, a geologist, am employed by the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission. A copy of my professional qualifications is attached to this affidavit.

I, Leon Reiter, a seismologist, am employed by the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission. A

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copy of my professional qualifications is attached to this affidavit.

I, Stephan J. Brocoum, a geologist, am employed by the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission. A copy of my professional qualifications is attached to this affidavit.

2. The purpose of this affidavit is to provide our evaluation of the seismological and geological information provided by Joint Intervenor as it may affect the seismic design basis for the Diablo Canyon Nuclear Power Plant (DCNPP). We wish to emphasize that our analysis is based in some instances on preliminary data available from recent earthquakes and preliminary review of recent and ongoing geological studies. However, to date, we have found nothing to warrant changing our previous conclusions concerning the DCNPP seismic design basis, nor those determinations made by the Appeal Board in ALAB-644, 13 NRC 903 (1981) which were challenged by Joint Intervenor, as discussed below.
3. We will address the specific issues raised by the Joint Intervenor in the section titled Specific Evidence in their Motion to Reopen the Record. In items (a) and (b) of the Joint Intervenor's Motion they claim that the high ground motion recorded at the Coyote Lake Dam from the April 24, 1984 Morgan Hill earthquake and at Victoria, from the Mexicali Valley earthquake of June 9, 1980 show that the

Newmark Spectrum substantially underestimates the force of a magnitude 7.5 event on the Hosgri Fault. As explained below, the recordings obtained from the April 24, 1984 Morgan Hill California earthquake at the Coyote Lake Dam abutment and from the June 9, 1980 Mexicali Valley, Baja California earthquake at the Victoria station do not invalidate the Appeal Boards decision as to the adequacy of the Newmark Hosgri Design Spectrum.

The Appeal Board considered the fact that the Newmark Spectrum had been exceeded by response spectra developed from ground motion records obtained from two earthquakes with magnitudes less than the postulated magnitude (M_s) 7.5 Hosgri event, the Pacoima Dam record from the 1971 San Fernando Valley earthquake (M_s 6.5) and the Bond's Corner record of the 1979 Imperial Valley earthquake (M_s 6.9) [ALAB-644 at 951] in reaching its decision as to the adequacy of the Newmark spectrum. This taken with the Appeal Board's finding that the size of near-field ground motion is not strongly dependent on earthquake size, indicates that the exceedence of the Newmark Spectrum by spectra from individual recordings are not cause to reject the Newmark Spectrum. The Appeal Board stated, in making its decision, that future ground motion records may exceed those previously measured [ALAB-644 at 933]. Also in discussing magnitude saturation [ALAB-644 at 932] the Board stated that "There cannot be total assurance that the measurements made in the near field to date sample all conditions that might result in large

exposed along the sea cliff south of Diablo Canyon. The fold was truncated by an ancient marine terrace demonstrating that the folding occurred at least prior to formation of that terrace 80,000/120,000 years before present, but possibly several million years before present.

There is no evidence that the minor folding in sediments above faults of the Hosgri fault zone are currently active, nor are they of sizes comparable to those related to faulting at Coalinga.

7. In their item (f) the Joint Intervenors claim that the Appeal Board's finding that Diablo Canyon is sited in an area of low to moderate seismicity has proven erroneous in light of the significant earthquakes that have occurred since 1978 along the coast of California. They base this contention on a paper by Eaton (1984, Intervenors' Attachment VIII) and try to make an argument for high seismicity in the Hosgri region. Eaton studied six earthquakes (magnitude range 3.9 to 5.9) that occurred over a large area near the coast of California, between Santa Barbara and Monterey. The locations of these events extended a distance of almost 300 kilometers. The northernmost event was the Point Sur earthquake of January 23, 1984 over 150 km from DCNPP and the southernmost event was the Santa Barbara earthquake August 13, 1978 about 135 km from DCNPP. The Point Sal earthquake of May 29, 1980 was the closest of these earthquakes to the Diablo Canyon site at a distance of about

30 km. As already stated the primary purpose of Eaton's study was to determine the focal mechanisms of these six events and to try to relate them to faults exposed at the surface. Of the six earthquakes only the Point Sal earthquake of May 29, 1980 appears to have an epicenter near the Hosgri fault zone. Nevertheless, Eaton found that the fault plane solutions he determined for this earthquake indicate a fault that strikes diagonally across rather than parallel to the mapped strands of the Hosgri fault near the epicenter. The largest, by far, of these six earthquakes, (the magnitude 5.9 Santa Barbara event) occurred in the Transverse Ranges, a different tectonic setting exhibiting higher seismicity and recognized recent tectonic movement. It is inappropriate to take these earthquakes from a widely spread area and use them to imply a greater probability for the occurrence of a magnitude 7.5 or larger earthquake near the plant.

The Appeals Board's finding that DCNPP is sited in an area of low to moderate seismicity is correct particularly when compared to areas of high seismicity in California such as Cape Mendocino, the area near Hollister, Parkfield, the Imperial Valley, the area south and east of Bakersfield and the San Jacinto fault zone (Real and others 1978) to name a few.

8. The DCNPP is in the coastal region of California where there is considerable amount of ongoing research in geology and seismology.

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(INSERT FOR THE RECORD OF THE FEBRUARY 28, 1985 HEARING)

"DOES THE USGS AGREE THAT DIABLO CANYON IS SITED IN AN AREA OF LOW TO MODERATE SEISMICITY?"

TO THE BEST OF OUR KNOWLEDGE THE USGS DOES NOT HAVE AN AGENCY POSITION AS TO WHETHER THE DIABLO CANYON SITE IS IN AN AREA OF LOW TO MODERATE SEISMICITY.

SOME ASPECTS OF USGS RESEARCH RELATED TO THIS QUESTION ARE REPORTED IN USGS OPEN FILE REPORT 82-1033 "PROBABILISTIC ESTIMATES OF MAXIMUM ACCELERATION AND VELOCITY IN ROCK IN THE CONTIGUOUS UNITED STATES" AND USGS OPEN FILE REPORT 80-924 "PROBABILISTIC ESTIMATES OF MAXIMUM SEISMIC HORIZONTAL GROUND MOTION ON ROCK IN COASTAL CALIFORNIA AND THE ADJACENT OUTER CONTINENTAL SHELF." MAPS IN THESE REPORTS, WHICH ARE REGIONAL IN DETAIL, SHOW PERCEIVED SEISMIC HAZARD I.E., THE ESTIMATED CHANCE OF EXCEEDING GIVEN LEVELS OF GROUND MOTION IN GIVEN TIME PERIODS FOR DIFFERENT PARTS OF THE UNITED STATES. IN THESE MAPS THE DIABLO CANYON AREA IS SHOWN AS EXHIBITING A HAZARD BELOW SOME OTHER PARTS OF CALIFORNIA, BUT ABOVE MOST PARTS OF THE COUNTRY OUTSIDE OF CALIFORNIA (ALASKA AND HAWAII ARE NOT SHOWN). IT IS VERY IMPORTANT TO POINT OUT THAT THESE HAZARD MAPS REFLECT THE INTEGRATION OF SEISMICITY, GEOLOGY AND PROFESSIONAL JUDGEMENT. DIFFERENT SEISMOLOGISTS AND GEOLOGISTS HAVE DIFFERENT OPINIONS. IT IS ALSO IMPORTANT TO POINT OUT THESE MAPS ARE REGIONAL IN

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NATURE AND ARE NOT MEANT TO REFLECT LOCALIZED AREAS. SEISMICITY AND HAZARD MAY VARY SIGNIFICANTLY OVER MORE LOCALIZED AREAS.

SEISMICITY MAPS ALONE, SUCH AS CALIFORNIA DIVISION OF MINES AND GEOLOGY MAP SHEET 39 "EARTHQUAKE EPICENTER MAP OF CALIFORNIA 1900 THROUGH 1974" INDICATE THAT THE IMMEDIATE DIABLO CANYON AREA EXHIBITS A LOWER LEVEL OF EARTHQUAKE ACTIVITY THAN MANY OTHER AREAS IN CALIFORNIA.

FURTHER INFORMATION ON THE LOW TO MODERATE SEISMICITY DETERMINATION FOR THE DIABLO CANYON SITE MAY BE FOUND IN THE NRC'S ATOMIC SAFETY AND LICENSING APPEAL BOARD DECISION (ALAB-644, 13 NRC 903 (1981)).

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QUESTION 3. EFFECT OF EARTHQUAKES ON EMERGENCY PLANS: IN AUTHORIZING FULL POWER OPERATION AT DIABLO CANYON, THE COMMISSION ADOPTED THE POSITION THAT AN EARTHQUAKE WITH MAGNITUDE LESS THAN THE SAFE SHUTDOWN EARTHQUAKE (SSE) WAS UNLIKELY TO CAUSE A REACTOR ACCIDENT REQUIRING IMPLEMENTATION OF THE EMERGENCY PLAN. THIS POSITION WAS AN ESSENTIAL ELEMENT IN THE COMMISSION'S DECIDING THAT, IN THE DIABLO CANYON PROCEEDING, THERE WAS NO NEED TO CONSIDER THE IMPACT OF AN EARTHQUAKE UPON THE WORKABILITY OF THE EMERGENCY PLAN.

(A) WHAT ANALYSIS WAS CONDUCTED TO ESTIMATE THE PROBABILITY THAT AN EARTHQUAKE, SMALLER THAN THE SSE, WOULD INITIATE AN ACCIDENT THAT MIGHT REQUIRE IMPLEMENTATION OF THE DIABLO CANYON EMERGENCY PLAN?

ANSWER.

THE COMMISSION'S DECISION WAS BASED ON THE ENTIRE RECORD OF THE HEARINGS BEFORE THE LICENSING AND APPEAL BOARDS, WHICH INCLUDED EXTENSIVE CONSIDERATION OF THE SEISMIC DESIGN OF DIABLO CANYON, AND IS CONFIRMED BY THE STAFF ANALYSIS

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QUESTION 3(A), (CONTINUED)

CONTAINED IN THE MEMORANDA WHICH WERE ATTACHED TO CLI-84-4 AND SERVED ON THE PARTIES. THAT ANALYSIS RELIED ON ENGINEERING JUDGMENT, WHICH CONSIDERED THE AVAILABLE SEISMIC RESEARCH. NO SPECIFIC PROBABILISTIC ANALYSIS WAS CONDUCTED.

THE SAFE SHUTDOWN EARTHQUAKE, OR SSE, FOR A NUCLEAR PLANT IS BASED UPON AN EVALUATION OF THE MAXIMUM EARTHQUAKE POTENTIAL FOR THE SPECIFIC SITE. THE SSE IS EVALUATED AS THAT EARTHQUAKE WHICH PRODUCES THE MAXIMUM VIBRATORY GROUND MOTION FOR WHICH CERTAIN STRUCTURES, SYSTEMS AND COMPONENTS MUST BE DESIGNED AND CONSTRUCTED TO REMAIN FUNCTIONAL. PROBABILISTIC ESTIMATES FOR THE OCCURRENCE OF AN SSE ARE TYPICALLY ON THE ORDER OF ONE IN A THOUSAND TO ONE IN TEN THOUSAND PER YEAR. BECAUSE OF THE SHORT HISTORY IN THE U.S., IN COMPARISON TO THE RETURN PERIOD OF LARGE EARTHQUAKES, AMONG OTHER FACTORS, THESE ESTIMATES MAY HAVE LARGE UNCERTAINTIES. ALL STRUCTURES, SYSTEMS AND COMPONENTS NECESSARY TO ACHIEVE A SAFE SHUTDOWN ARE SEISMICALLY QUALIFIED FOR THE SSE AND ARE EXPECTED, WITH HIGH CONFIDENCE, TO FUNCTION TO BRING THE PLANT TO A SAFE SHUTDOWN.

WITH THESE STRUCTURES, SYSTEMS AND COMPONENTS FUNCTIONING PROPERLY ONLY IN THE EVENT OF MULTIPLE UNRELATED FAILURES OF SAFETY RELATED SYSTEMS DUE TO SOME UNDISCOVERED COMMON CAUSE FAILURE MECHANISM (SUCH AS A MAJOR DESIGN ERROR), COINCIDENT WITH A SEVERE EARTHQUAKE UP TO A SEVERITY OF AN SSE, WOULD

QUESTION 3(A). (CON. INUED)

THERE BE A CHANCE OF AN ACCIDENT WHICH WOULD REQUIRE OFFSITE EMERGENCY RESPONSE. THE PROBABILITY OF THESE TWO EVENTS OCCURRING PROXIMATELY IN TIME IS VERY MUCH LOWER THAN THE PROBABILITY OF EITHER INDIVIDUAL EVENT.

THE NECESSARY STRUCTURES, SYSTEMS AND COMPONENTS OF THE DIABLO CANYON PLANT WERE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ALL THE APPROPRIATE NRC REQUIREMENTS TO PERFORM THEIR INTENDED FUNCTION DURING AND FOLLOWING AN EARTHQUAKE OF A MAGNITUDE UP TO THE SSE.

COMMISSIONER ASSELSTINE'S CRITICISM CONFUSES THE NEED TO HAVE AN EMERGENCY PLAN WITH THE ADVISABILITY OF CONSIDERING THE COMPLICATING EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING. THE COMMISSION DID NOT FIND THAT SEISMIC RISK IS SO LOW AS NOT TO REQUIRE AN EMERGENCY PLAN. RATHER, THE COMMISSION FOUND THAT THE PROBABILITY THAT AN EARTHQUAKE LESS THAN THE SSE WOULD RESULT IN A RADIOLOGIC RELEASE AND SIMULTANEOUSLY COMPLICATE THE EMERGENCY PLAN WAS TOO LOW TO REQUIRE SPECIFIC CONSIDERATION OF THE EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING. THIS CONCLUSION OF LOW PROBABILITY IS DRAWN FROM A THOROUGH EVALUATION OF ALL CONCEIVABLE WAYS THAT A SEISMIC EVENT WITHIN THE DESIGN BASIS ENVELOPE (I.E. LESS THAN AN SSE) COULD RESULT IN A RADIOLOGICAL RELEASE. WHILE RECOGNIZING THAT THERE IS A LOW BUT FINITE PROBABILITY OF SUCH AN EVENT, WE BELIEVE THAT THE TWO EXAMPLES CITED BY COMMISSIONER ASSELSTINE,

QUESTION 3(A). (CONTINUED)

IF ANYTHING, POINT OUT THE STRENGTH OF OUR POSITION, NOT THE WEAKNESS. IN FACT, THE FIRST WAS INITIALLY RECOGNIZED AS A SEISMIC INTERACTION ISSUE OF GENERIC SIGNIFICANCE AS A CONSEQUENCE OF THE EXHAUSTIVE SEISMIC STUDIES CARRIED OUT FOR DIABLO CANYON. THOUGH THE PROBLEM WAS RESOLVED EARLY ON AT DIABLO BY APPROPRIATE MODIFICATIONS, THE RECENT IE NOTICE (85-45) REFERENCED BY COMMISSIONER ASSELSTINE GREW OUT OF THE DIABLO CANYON SEISMIC WORK. THERE IS NO EVIDENCE THAT THE SECOND SEISMIC INTERACTION CONCERN CITED BY COMMISSIONER ASSELSTINE, AND ADDRESSED IN IE NOTICE (85-47), IS RELEVANT TO DIABLO CANYON.

QUESTION 3(A). (continued)

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

THE LOGIC IN THE COMMISSION'S RESPONSE IS FUNDAMENTALLY FLAWED. THE COMMISSION WOULD HAVE THE CONGRESS BELIEVE THAT, IF A PLANT MEETS THE NRC REQUIREMENTS RELATED TO EARTHQUAKES, THEN THERE IS NO NEED FOR EMERGENCY PLANNING ON THE BASIS OF SEISMIC RISK. ALL PLANTS ARE REQUIRED TO MEET NRC REQUIREMENTS BEFORE THEY ARE PERMITTED TO OPERATE; YET THEY ARE ALSO REQUIRED TO HAVE EMERGENCY RESPONSE PLANS. THERE IS NO BASIS FOR DISTINGUISHING NRC SEISMIC REQUIREMENTS FROM ANY OTHER REQUIREMENTS. EMERGENCY PLANNING IS NECESSARY BECAUSE OF UNCERTAINTIES IN RISK AND THE UNCERTAINTIES IN THE SEISMIC RISK ARE AMONG THE LARGEST. IT IS SO DIFFICULT TO CALCULATE THE SEISMIC RISK THAT MOST PROBABILISTIC RISK ASSESSMENTS DO NOT EVEN ADDRESS IT. FURTHER, AN EARTHQUAKE EVEN AT OR BELOW THE SAFE SHUTDOWN EARTHQUAKE REPRESENTS A POTENTIAL COMMON CAUSE FAILURE MODE THAT COULD NEGATE THE DEFENSE-IN-DEPTH CONCEPT. I HAVE SUBSTANTIAL DOUBTS THAT KNOWLEDGEABLE PEOPLE WOULD SUPPORT THE COMMISSION'S POSITION THAT THE POTENTIAL FOR A SEVERE EARTHQUAKE BEING A COMMON CAUSE FAILURE MECHANISM HAS BEEN REDUCED TO A VANISHINGLY SMALL LEVEL BY NRC REQUIREMENTS.

EXAMPLES OF WHY AN EARTHQUAKE LESS THAN A "SAFE SHUTDOWN EARTHQUAKE" SHOULD NOT BE RULED OUT AS A POTENTIAL CAUSE OF AN ACCIDENT REQUIRING OFF-SITE EMERGENCY RESPONSE, ARE THE ATTACHED IE INFORMATION NOTICES NO. 85-45 ("POTENTIAL SEISMIC INTERACTION

QUESTION 3(A). (CONTINUED)

INVOLVING THE MOVABLE IN-CORE FLUX MAPPING SYSTEM USED IN WESTINGHOUSE DESIGNED PLANTS"), DATED JUNE 6, 1985, AND NO. 85-47 ("POTENTIAL EFFECT OF LINE-INDUCED VIBRATION ON CERTAIN TARGET ROCK SOLENOID-OPERATED VALVES"), DATED JUNE 18, 1985, WHICH IDENTIFY AN OVERLOOKED SEISMIC VULNERABILITY IN PLANTS SUCH AS DIABLO CANYON AND SAN ONOFRE, RESPECTIVELY.

THE COMMISSION WOULD ALSO HAVE THE CONGRESS BELIEVE "THE PROBABILITY THAT AN EARTHQUAKE LESS THAN THE SSE (WHICH IS AN EARTHQUAKE PRODUCING GROUND ACCELERATION OF 0.75G) WOULD RESULT IN A RADIOLOGIC RELEASE AND SIMULTANEOUSLY COMPLICATE THE EMERGENCY PLAN (IS) TOO LOW TO REQUIRE SPECIFIC CONSIDERATION OF THE EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING." THE COMMISSION'S OWN REQUIREMENTS FOR DIABLO CANYON REQUIRE IMPLEMENTATION OF THE EMERGENCY PLAN WHEN EARTHQUAKES LESS THAN THE SSE OCCUR. IN ITS EMERGENCY PLAN FOR DIABLO CANYON LICENSEE IS REQUIRED TO DECLARE AN "ALERT" AT THE PLANT, TO ACTIVATE THE ON-SITE TECHNICAL SUPPORT CENTER AND THE ON-SITE OPERATIONAL SUPPORT CENTER, AND TO PROMPTLY NOTIFY STATE AND LOCAL AUTHORITIES IN THE EVENT OF AN EARTHQUAKE WHICH PRODUCES A GROUND ACCELERATION OF 0.2G. THESE REQUIRED ACTION INVOLVE DESIGNATED PG&E PERSONNEL TRAVELING FROM WHERE EVER THEY MAY BE AT THE TIME OF THE EARTHQUAKE TO THE SITE IN ORDER TO PROVIDE ASSISTANCE TO THE SHIFT IN COPING WITH THE EFFECTS OF THE EARTHQUAKE. IN ADDITION, THE STATE AND LOCAL AUTHORITIES MUST AUGMENT THEIR RESOURCES AND BRING THEIR PRIMARY RESPONSE CENTERS TO STANDBY STATUS. THE COMMISSION ALSO REQUIRES DIABLO CANYON TO

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QUESTION 3(A). (CONTINUED)

DECLARE A "SITE AREA EMERGENCY" AND TO ACTIVATE THE ON-SITE TECHNICAL SUPPORT CENTER AND THE NEAR SITE EMERGENCY OPERATIONS FACILITY IN THE EVENT OF A 0.6G EARTHQUAKE. "SITE AREA EMERGENCIES" ARE EVENTS THAT ARE IN PROCESS OR HAVE OCCURRED WHICH INVOLVE ACTUAL OR LIKELY MAJOR FAILURES OF PLANT FUNCTIONS NEEDED FOR PROTECTION OF THE PUBLIC. THESE COMMISSION REQUIREMENTS ARE BASED ON THE STAFF'S TECHNICAL JUDGMENT ON THE POSSIBLE EFFECTS OF SUCH EARTHQUAKES ON STRUCTURES AND COMPONENTS. BECAUSE THE COMMISSION REFUSED TO ALLOW CONSIDERATION OF THE COMPLICATING EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING, THERE IS NOTHING IN THE RECORD OF THE DIABLO CANYON PROCEEDING TO SHOW WHETHER THESE REQUIRED ACTIONS CAN EVEN BE CARRIED OUT.

I WOULD ALSO POINT OUT THAT IN A RECENT LETTER TO THE COMMISSION THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS) DID NOT SUPPORT THE COMMISSION'S CONCLUSION THAT THERE WAS A TECHNICAL BASIS FOR NOT CONSIDERING THE COMPLICATING EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING. THE ACRS STATED: "WE SEE NO TECHNICAL REASON FOR THE EXCLUSION OF EARTHQUAKES FROM THE NATURAL PHENOMENA CONSIDERED IN OFF-SITE EMERGENCY PLANNING FOR NUCLEAR POWER PLANTS." LETTER FROM DAVID A. WARD, CHAIRMAN ACRS, TO NUNZIO J. PALLADINO, CHAIRMAN NRC, DATED JUNE 10, 1985, "ACRS COMMENTS ON THE CONSIDERATION OF EARTHQUAKES IN OFF-SITE EMERGENCY PLANNING," P. 1.

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QUESTION 3(A). (CONTINUED)

COMMISSIONER ZECH ADDS THE FOLLOWING:

I DID NOT PARTICIPATE IN THE VOTE ON THE LICENSING OF DIABLO CANYON UNIT 1 FOR FULL POWER OPERATION. I DID NOT DO SO BECAUSE AT THAT TIME, THE TIME AVAILABLE TO ME AS A COMMISSIONER WAS SIMPLY NOT SUFFICIENT FOR ME TO SATISFY MYSELF THAT I HAD READ, ANALYZED, AND ADEQUATELY REFLECTED UPON ALL THE RELEVANT MATERIAL. I DID PARTICIPATE, HOWEVER, IN THE DISCUSSION AND VOTED ON THE SEPARATE DISCRETE ISSUE OF WHETHER TO INITIATE A RULEMAKING PROCEEDING ON THE GENERIC ISSUE OF THE EXTENT TO WHICH EARTHQUAKES SHOULD BE CONSIDERED IN EMERGENCY PLANNING.

IT IS MY UNDERSTANDING THAT COMMENTS ON THE RULEMAKING PROCEEDING HAVE BEEN RECEIVED. I AM AWAITING THE STAFF ANALYSIS OF THESE COMMENTS. I BELIEVE THAT THE COMMISSION SHOULD ACT IN THE NEAR FUTURE TO PROVIDE ANY NEEDED CLARIFICATIONS FOR GENERIC GUIDANCE OF ITS PRIOR SAN ONOFRE RULING. IN THE MEANTIME, I AM PREPARED TO DEAL WITH THE ISSUE SHOULD IT ARISE IN INDIVIDUAL LICENSING PROCEEDINGS.

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SSINS No.: 6835
IN 85-45UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D. C. 20555

June 6, 1985

IE INFORMATION NOTICE NO. 85-45: POTENTIAL SEISMIC INTERACTION INVOLVING THE
MOVABLE IN-CORE FLUX MAPPING SYSTEM USED IN
WESTINGHOUSE DESIGNED PLANTSAddressees:

All power reactor facilities holding an operating license (OL) or a construction permit (CP).

Purpose:

This information notice is provided as notification of a potentially generic problem involving seismic interactions within the movable flux mapping system at Westinghouse designed plants. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem from occurring at their facilities. However, suggestions contained in this information notice do not constitute requirements and, therefore, no specific action or written response is required.

Description of Circumstances:

On June 22, 1984, Carolina Power and Light (CP&L) Company informed the Nuclear Regulatory Commission (NRC) of a potentially reportable item per the provisions of 10 CFR 50.55(e) and 10 CFR 21 at their Shearon Harris Nuclear Power Plant (SHNPP) Unit 1. The NRC was informed that interactions between the nonsafety related portions of the flux mapping system and the tubing/seal table during a seismic event had not been adequately considered by Westinghouse. At that time CP&L was waiting for Westinghouse to perform a structural integrity analysis for the portion of the in-core flux mapping system that is located above the in-core instrumentation tubing/seal table. In a letter dated February 12, 1985, CP&L informed the NRC that the potential seismic interactions were indeed reportable.

The potential interactions exist because portions of the flux mapping system that have not been seismically analyzed are located directly above the in-core instrumentation tubing/seal table. Failure during a seismic event could possibly cause multiple failures in the flux mapping tubing or fittings that would produce a small break loss of coolant accident. Recent discussions with Westinghouse have revealed that the potential seismic interactions could exist at other Westinghouse plants including operating plants. Furthermore, multiple failures of flux mapping tubing and/or fittings constitute an unanalyzed small break loss of coolant accident because the break flow would effectively be from

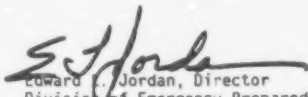
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the bottom of the reactor vessel. Thus, the consequences could be beyond the licensing design basis for loss of coolant accidents. It should be noted that any loss of reactor coolant system pressure boundary integrity caused by seismically induced failures in the flux mapping system would be outside the design basis of a plant and therefore, unacceptable regardless of whether the consequences were within those for loss of coolant accidents analyzed in safety analysis reports.

The NRC staff has discussed this issue with the Westinghouse Regulatory Response Group. Based on discussions with the Regulatory Response Group and Westinghouse, it is our understanding that Westinghouse will notify their customers of this problem by letter in the near future.

No specific action or written response is required by this information notice; however, contingent upon the results of further staff evaluations, a bulletin or a generic letter requesting specific licensee actions may be issued. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.



Edward J. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

Technical Contact: David Powell
(301) 492-7155

Attachment: List of Recently Issued IE Information Notices

SSINS No.: 6835
IN 85-47UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D. C. 20555File: ~~85-47~~

June 18, 1985

IE INFORMATION NOTICE NO. 85-47: POTENTIAL EFFECT OF LINE-INDUCED VIBRATION
ON CERTAIN TARGET ROCK SOLENOID-OPERATED VALVESAddressees:

All nuclear power reactor facilities holding an operating license (OL) or a construction permit (CP).

Purpose:

This information notice is to alert addressees that certain models of Target Rock (TR) solenoid-operated valves have failed during environmental qualification testing. The analysis of the test failure suggests that line vibration induced by hydrodynamic force in piping and other forms of mechanical vibration may cause the loosening of the solenoid hold-down nut of those TR solenoid valves with design features similar to TR valve models that were tested.

Because of the potential safety significance of line-induced and other vibrations on TR solenoid operated valves, it is suggested that recipients review this information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem occurring at their facilities. Suggestions contained in this notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

On November 14, 1984, Arizona Public Services Company provided the NRC with a final report on a 10 CFR 50.55(e) reportable condition relating to qualification testing of certain TR solenoid-operated valves. Four TR valves, procured by Combustion Engineering (CE) for use at Palo Verde Nuclear Generating Station Unit 3, were tested to the requirements of NUREG-0588, Category I. Test valves included two 1-inch TR valves, model 77L-001 and two 2-inch TR valves, model 77L-003. The qualification test involved irradiation to 50 megarads, thermal aging at 260°F for 635 hours, mechanical cycling, vibrational aging to represent normal service vibration, seismic testing, and finally, testing in a simulated LOCA environment. The licensee reported that during the qualification testing, a number of anomalies were identified, and the test was discontinued when the test valves failed to function for different reasons during the seismic testing. CE and TR appraised the overall safety significance of the observed test anomalies for the licensee. They considered the failure of the valve to open on demand as a result of solenoid lead shorting caused by line-induced vibrational

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wear to be a common mode of failure that, in a seismic event, could potentially disable several redundant valves at the same time. This failure of the valve to open on demand is the only observed test anomaly considered to have significant generic safety implications and is the subject of this information notice.

The root cause of the valve failure to open is attributable to the mechanism used to secure the solenoid to the upper works assembly of the valve. The valves used at Palo Verde have a jam nut and a lock washer that are used together to secure the solenoid. If the upper works assembly is rotated during valve handling or installation, the jam nut can become loose, allowing axial rotation of the coil. As a corrective action, the licensee has stated in its latest report to the NRC that existing TR valves Models 77L-0001 and 77L-003 are being upgraded. The upgrading includes a complete factory refurbishment of the valves with potting of the coil into the solenoid housing. The potting will prevent differential movement between the coil and housing to preclude lead wire abrasion during line-induced vibration.

Target Rock Corporation also has reported that the following TR valve models and plants may be affected by line-induced vibration:

Valve Models

Power Plants

72A-001/002/003/004/005/007

Monticello Nuclear Power Plant

72V-001

Duane Arnold Energy Center

73E-002

Trojan Nuclear Plant

75G-002/003/008/009/013

San Onofre Nuclear Generating Station

75GG-001

Grand Gulf Nuclear Station

75KK-204/207

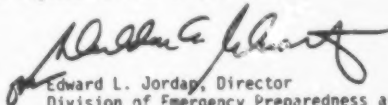
Susquehanna Steam Electric Station

76B-002/024/039/040/041/042/043/044

Midland

TR has made the recommendation to the NRC that the utilities for the above listed power plants consider performing a review of safety-related systems that incorporate the above listed solenoid valves to determine if solenoid locking devices are installed on their valves. TR recommends that locking devices for the listed valves be installed per TR Service Bulletin 8302 (attached), if they have not already been installed and the potential for line-induced vibration exists. (Note: the locking device of Service Bulletin 8302 is different from the potting mechanism used for the Palo Verde solenoids.)

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.


Edward L. Jordan, Director
Division of Emergency Preparedness and
Engineering Response
Office of Inspection and Enforcement

Technical Contact: N. B. Le, NRR
(301) 492-4686

G. Hubbard, IE
(301) 492-9759

Attachments:

1. Target Rock Service Bulletin 8302
2. List of Recently Issued IE Information Notices

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

June 10, 1985

Honorable Munzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Palladino:

SUBJECT: ACRS COMMENTS ON THE CONSIDERATION OF EARTHQUAKES IN OFF-SITE
EMERGENCY PLANNING

During its 302nd meeting, June 6-8, 1985, the Advisory Committee on Reactor Safeguards completed its review of the proposed amendment to 10 CFR 50, "Emergency Planning and Preparedness for Production and Utilization Facilities." This topic was also considered during the 301st ACRS meeting on May 9-11, 1985, the 297th meeting on January 10-12, 1985 and during a joint meeting of our Reactor Radiological Effects and Site Evaluation Subcommittees on January 3-4, 1985. During these reviews the Committee had the benefit of discussions with the NRC Staff, representatives of the Federal Emergency Management Agency, and invited experts. The Committee also had the benefit of the documents referenced, including the public comments submitted to the NRC on the proposed amendment.

On the basis of these discussions, we offer the following comments:

1. We see no technical reason for the exclusion of earthquakes from the natural phenomena considered in off-site emergency planning for nuclear power plants. However, we believe that only limited consideration of earthquakes is appropriate. For sites where an earthquake capable of severely damaging emergency travel routes is sufficiently likely to occur, the local off-site authorities should have the benefit of studies indicating the types and potential locations of such damage. The study of this kind already performed for the region surrounding the Diablo Canyon site would clearly meet the intent of this comment.
2. In the assessment of the impact of natural events on emergency planning, the major effort should be to identify potential problems and to devise alternative approaches for their resolution. This would include requirements for assuring appropriate means for communication, for identifying alternative routes for the evacuation of the local population, and for identifying circumstances under which sheltering might be a more effective response than evacuation. In many cases, such assessments may lead to a decision that no further response or action is required. The goal should be

6/11 -- To EDO for Appropriate Action. Dist: RF. 85-461

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to assure that emergency plans, as developed, contain sufficient flexibility to cope with the potential added impacts of such events.

We hope you will find these comments useful.

Sincerely,

David A. Ward
David A. Ward
Chairman

References:

1. U. S. Nuclear Regulatory Commission, 10 CFR Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities," Proposed Rule, Federal Register, Vol. 49, No. 247, pp. 49640-49643 dated December 21, 1984
2. Sixty-one public comments received by S. J. Chilk, Secretary of the Commission, in response to Reference 1.
3. Correspondence from the following in response to requests for information regarding this subject:
 - a. Andre Messiah, Ministry of Industry, Service Central de Surete, des Installations Nucleaires, France, dated March 29, 1985
 - b. I. A. Breest, Federal Minister of the Interior, Federal Republic of Germany, dated March 22, 1985
 - c. Thayer from Taipei, Taiwan, dated April 24, 1985 (Limited Official Use)
 - d. T. Taniguchi, Ministry of International Trade and Industry, Japan, dated April 20, 1985
 - e. Ministry of International Trade and Industry, NSB, STA, Japan, dated April 20, 1985
 - f. Ministry of International Trade and Industry, Swedish Nuclear Power Inspectorate, dated April 20, 1985
4. TERA Emergency Planning at Diablo Canyon, Volumes 1 & 2, September 2, 1984

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QUESTION 3(B).

(B) WHAT IS THE BASIS FOR CONCLUDING THAT SUCH AN EARTHQUAKE IS SIGNIFICANTLY LESS LIKELY TO INITIATE AN ACCIDENT REQUIRING IMPLEMENTATION OF THE EMERGENCY PLAN THAT OTHER ACCIDENT INITIATORS WHICH ARE IMPLICIT IN THE IMPOSITION OF EMERGENCY PLANNING REQUIREMENTS?

ANSWER.

THE COMMISSION DECISION DOES NOT REST ON A COMPARISON OF THE RELATIVE PROBABILITIES OF NATURAL PHENOMENA AS ACCIDENT INITIATORS. RATHER, THE COMMISSION DECISION IS BASED ON THE RECORD MATERIAL WHICH SHOWS THAT THE PROBABILITY THAT AN EARTHQUAKE WILL INITIATE AN ACCIDENT OR OCCUR COINCIDENT IN TIME WITH A NON-SEISMIC ACCIDENT INITIATOR IS SO LOW THAT THE COMPLICATING EFFECTS OF EARTHQUAKES ON EMERGENCY PLANNING NEED NOT BE SEPARATELY LITIGATED. THIS RECORD MATERIAL INCLUDES THE UNUSUALLY EXTENSIVE REVIEW OF THE ADEQUACY OF THE SEISMIC DESIGN OF DIABLO CANYON AND THE CONCLUSION THAT THE PROBABILITY OF OCCURRENCE OF A SIGNIFICANT EARTHQUAKE (I.E. AN EARTHQUAKE CAUSING A GROUND ACCELERATION AT OR ABOVE THAT WHICH WOULD BE CAUSED BY THE OPERATING BASIS EARTHQUAKE) IN THE VICINITY OF THE PLANT IS LOW. ALAB-644, 13 NRC 903, 989-994 (1981). HAD A SIMILAR RECORD FOR OTHER NATURAL PHENOMENA BEEN BEFORE THE COMMISSION, AND HAD THE PARTIES RAISED THE ISSUE OF CONSIDERING THE COMPLICATING EFFECTS OF THOSE OTHER NATURAL

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QUESTION 3(B). (CONTINUED) - 2 -

PHENOMENA THE COMMISSION COULD HAVE CONSIDERED WHETHER THE COMPLICATING EFFECTS OF THOSE NATURAL PHENOMENA SHOULD BE LITIGATED.

COMMISSIONER ASSELSTINE ADDS:

THE COMMISSION'S RESPONSE TO THIS QUESTION IS ARTFUL, BUT SOMEWHAT MISLEADING. THE COMMISSION'S DECISION MAY BE BASED ON MATERIAL IN THE RECORD WHICH DEALS WITH THE PROBABILITIES OF EARTHQUAKES. HOWEVER, THE IMPLICATION THAT THE COMMISSION DRAWS FROM THOSE RECORD DISCUSSIONS OF PROBABILITIES, I.E. THAT THE PROBABILITIES ARE SO LOW THAT THE COMPLICATING EFFECTS OF EARTHQUAKES NEED NOT BE SEPARATELY LITIGATED - IS ITSELF A FACTUAL DETERMINATION. THAT FACTUAL DETERMINATION SHOULD HAVE BEEN THE SUBJECT OF LITIGATION SINCE THE ISSUE WAS PROPERLY RAISED BY PARTIES TO THE PROCEEDING.

WHILE THE COMMISSION IS ALSO CORRECT THAT ITS DECISION DOES NOT REST ON A SPECIFIC COMPARISON OF THE RELATIVE PROBABILITIES OF NATURAL PHENOMENA, THAT IS NOT THE POINT, AND IN FACT IS THE PROBLEM. IMPLICIT IN THE COMMISSION'S DECISION IS, NECESSARILY, A FINDING THAT EARTHQUAKES ARE SOMEHOW SO MUCH MORE UNLIKELY TO DISRUPT EMERGENCY RESPONSE THAN OTHER NATURAL PHENOMENA THAT EARTHQUAKES NEED NOT BE SPECIFICALLY CONSIDERED IN EMERGENCY PLANNING. THE COMMISSION HAS NEVER EXPLAINED WHY THAT IS SO, NOR HAS IT SPECIFICALLY COMPARED EARTHQUAKES TO OTHER RELATIVELY INFREQUENT NATURAL PHENOMENA THAT IT CONSIDERS IN EMERGENCY PLANNING FOR OTHER PLANTS. FURTHER, THE ACRS DOES NOT SUPPORT THE

QUESTION 3(B). (CONTINUED) - 3 -

COMMISSION'S CONCLUSION. THE ACRS HAS TOLD THE COMMISSION: "WE SEE NO TECHNICAL REASON FOR THE EXCLUSION OF EARTHQUAKES FROM THE NATURAL PHENOMENA CONSIDERED IN OFF-SITE EMERGENCY PLANNING FOR NUCLEAR POWER PLANTS." LETTER FROM DAVID A. WARD, CHAIRMAN ACRS TO NUNZIO J. PALLADINO, CHAIRMAN NRC, DATED JUNE 10, 1985, "ACRS COMMENTS ON THE CONSIDERATION OF EARTHQUAKES IN OFFSITE EMERGENCY PLANNING," P. 1.

COMMISSIONER ZECH ADDS THE FOLLOWING:

I DID NOT PARTICIPATE IN THE VOTE ON THE LICENSING OF DIABLO CANYON UNIT 1 FOR FULL POWER OPERATION. I DID NOT DO SO BECAUSE AT THAT TIME, THE TIME AVAILABLE TO ME AS A COMMISSIONER WAS SIMPLY NOT SUFFICIENT FOR ME TO SATISFY MYSELF THAT I HAD READ, ANALYZED, AND ADEQUATELY REFLECTED UPON ALL THE RELEVANT MATERIAL. I DID PARTICIPATE, HOWEVER, IN THE DISCUSSION AND VOTED ON THE SEPARATE DISCRETE ISSUE OF WHETHER TO INITIATE A RULEMAKING PROCEEDING ON THE GENERIC ISSUE OF THE EXTENT TO WHICH EARTHQUAKES SHOULD BE CONSIDERED IN EMERGENCY PLANNING.

IT IS MY UNDERSTANDING THAT COMMENTS ON THE RULEMAKING PROCEEDING HAVE BEEN RECEIVED. I AM AWAITING THE STAFF ANALYSIS OF THESE COMMENTS. I BELIEVE THAT THE COMMISSION SHOULD ACT IN THE NEAR FUTURE TO PROVIDE ANY NEEDED CLARIFICATIONS FOR GENERIC GUIDANCE OF ITS PRIOR SAN ONOFRE RULING. IN THE MEANTIME, I AM PREPARED TO DEAL WITH THE ISSUE SHOULD IT ARISE IN INDIVIDUAL LICENSING PROCEEDINGS.

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5. RESPONSES TO QUESTIONS IN REP. MCCAIN'S MARCH 12, 1985 LETTER REQUESTING NRC SUPPLEMENT THE HEARING RECORD.

QUESTION 1. HOW LONG HAS THE SHOREHAM PROCEEDING BEEN PENDING BEFORE THE NRC?

ANSWER.

NOTICE OF HEARINGS ON THE CONSTRUCTION PERMIT FOR THE SHOREHAM NUCLEAR PLANT WAS PUBLISHED IN THE FEDERAL REGISTER ON FEBRUARY 25, 1970. HEARINGS ON THE CONSTRUCTION PERMIT COMMENCED IN SEPTEMBER 1971, AND CONCLUDED IN JANUARY 1973. THE CONSTRUCTION PERMIT WAS ISSUED ON APRIL 13, 1973. NOTICE OF AN OPPORTUNITY FOR HEARING ON THE APPLICATION FOR AN OPERATING LICENSE FOR THE SHOREHAM NUCLEAR PLANT WAS PUBLISHED IN THE FEDERAL REGISTER ON MARCH 16, 1976, AND THE HEARING ON THAT APPLICATION COMMENCED ON MAY 4, 1982.

A FINAL DETERMINATION ON A FULL POWER LICENSE IS PENDING BEFORE THE COMMISSION.

QUESTION 2. ABOUT HOW MANY STATE AND LOCAL PERMITS FOR THE
CONSTRUCTION AND OPERATIONS OF SHOREHAM WERE GRANTED?

ANSWER.

APPLICANT HAS ADVISED THE NRC STAFF THAT 51 STATE AND LOCAL PERMITS
WERE GRANTED FOR THE CONSTRUCTION AND OPERATION OF SHOREHAM.

QUESTION 3. DOES NEW YORK STATE HAVE A MASTER ENERGY PLAN WHICH
INCLUDES SHOREHAM AS A NECESSARY FACILITY?

ANSWER.

LEGAL COUNSEL FOR THE NEW YORK STATE ENERGY OFFICE ADVISED THE NRC
STAFF THAT THE STATE LAW WHICH REQUIRED PREPARATION OF A MASTER
ENERGY PLAN EXPIRED ON JANUARY 1, 1984, AND HAS NOT BEEN RENEWED.
SHOREHAM WAS INCLUDED IN PREVIOUS MASTER PLANS AS A PLANT UNDER
CONSTRUCTION.

QUESTION 4. IN TERMS OF DOCUMENTS, DEPOSITIONS, TESTIMONY, ETC., HOW MUCH ADDITIONAL ATTENTION AND RESOURCES HAVE BEEN DEVOTED BY THE COMMISSION AND ITS LICENSING AND APPEAL BOARDS TO THE CONCERNS OF THE STATE AND COUNTY RELATING TO SHOREHAM SINCE THE SUBCOMMITTEE'S MAY 17, 1984 HEARING?

ANSWER.

VERY SUBSTANTIAL ADDITIONAL ATTENTION AND RESOURCES HAVE BEEN DEVOTED TO SHOREHAM BY THE COMMISSION, AND ITS LICENSING AND APPEAL BOARDS TO ADDRESS THE CONCERNS OF THE STATE AND THE COUNTY IN REGARD TO SHOREHAM SINCE MAY 17, 1984. SINCE THAT DATE THERE HAVE BEEN 29 COMMISSION ORDERS AND DECISIONS, 20 APPEAL BOARD ORDERS AND DECISIONS AND 73 WRITTEN LICENSING BOARD ORDERS AND DECISIONS ON MATTERS RAISED BY THE STATE AND COUNTY IN REGARD TO SHOREHAM. THE COMMISSION STAFF HAS FILED 95 BRIEFS AND OTHER PLEADINGS SINCE THAT TIME. THERE HAVE BEEN A TOTAL OF 93 DAYS OF HEARINGS BEFORE THREE SEPARATE LICENSING BOARDS. 15 WITNESSES APPEARED ON BEHALF OF THE NRC STAFF AT THESE HEARINGS. THERE HAVE BEEN 3 ORAL ARGUMENTS BEFORE THE THREE MEMBER APPEAL BOARD AND TWO BEFORE THE COMMISSION IN WHICH THE NRC STAFF PARTICIPATED.

QUESTION 5. IN HOW MUCH OF THE SHOREHAM PROCEEDINGS TO DATE HAVE SUFFOLK COUNTY AND NEW YORK STATE BEEN INVOLVED, AND HOW HEAVILY?

ANSWER.

SUFFOLK COUNTY HAS BEEN INVOLVED IN THIS PROCEEDING SINCE IT STARTED IN EARLY 1982. IT HAS BEEN REPRESENTED AT ALL HEARINGS, PRESENTED MANY WITNESSES, CROSS-EXAMINED THE WITNESSES OF OTHER PARTIES, AND FILED SUBSTANTIAL BRIEFS AND PLEADINGS ON VIRTUALLY ALL ISSUES.

THE STATE OF NEW YORK, ALTHOUGH A PARTY TO THE PROCEEDING SINCE IT STARTED, HAS BEEN HEAVILY INVOLVED ONLY SINCE DECEMBER 1983. IT HAS APPEARED AT MANY HEARINGS, PRESENTED ORAL ARGUMENTS, PRESENTED SOME WITNESSES AND CONDUCTED SOME CROSS-EXAMINATION. THE STATE HAS, HOWEVER, MAINLY RELIED ON THE COUNTY TO REPRESENT ITS INTERESTS AT THE HEARINGS BEFORE THE LICENSING BOARDS.

STATEMENT SUBMITTED FOR THE RECORD
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

FY 1986 NRC AUTHORIZATION
HIGH TEMPERATURE GAS-COOLED REACTOR PROGRAM

RICHARD F. WALKER
PRESIDENT OF PUBLIC SERVICE COMPANY OF COLORADO
AND
CHAIRMAN OF GAS-COOLED REACTOR ASSOCIATES

Mr. Chairman and Members of the Subcommittee, my name is Richard F. Walker, and I am President of Public Service Company of Colorado and Chairman of Gas-Cooled Reactor Associates (GCRA) which is a utility/user organization that supports the development of the High Temperature Gas-Cooled Reactor (HTGR). At present, the GCRA constituency represents approximately one-third of the installed generation capacity in the U.S. In addition, participating GCRA utilities have a substantial investment in and extensive experience with nuclear power. This background of nuclear experience provides GCRA with a sound base for evaluating the HTGR as a commercial alternative. GCRA's role is to apply this base of experience in guiding the development of the HTGR to be fully responsive to utility/user requirements. A GCRA staff, supported solely by utility funds, has been in place since 1978 conducting HTGR concept evaluations, Project planning and development activities, and Program integration support services to DOE, including the management of architect-engineer (AE) resources.

The bases for utility/user interest in the HTGR are the unique characteristics that distinguish it from the current generation of nuclear power systems. The most notable of these features are the inherent safety and low environmental impact characteristics that translate to minimal reliance on engineered safety systems, substantial time (measured in hours) for operator response to postulated reactor upset conditions, added margins for plant investment protection and siting flexibility, and low radiation exposure of plant personnel. Furthermore, the HTGR is an evolutionary technology that extends beyond near-term power and cogeneration applications to advanced concepts for power generation and process heat.

GCRA's objective is to establish the HTGR as an attractive commercial alternative for a broad range of applications in a timely manner. The approach to achieving this objective has been to establish an initial HTGR Project after which commercial plants can be deployed. In achieving this objective, the maximum use will be made of the past 35 years of worldwide gas-cooled reactor technology,

demonstration and application. In the near-term, the objective is to develop an HTGR design that is responsive to the utility/user's requirements, eases the current institutional difficulties associated with nuclear power and optimally capitalizes on the HTGR's unique characteristics.

During the past year, a comprehensive evaluation has been undertaken within the HTGR Program of various smaller, simpler HTGR design concepts. Through this effort, a consensus has been reached among the private-sector participants on the key elements of the HTGR Program. In particular, the preferred concept for near-term development and deployment emphasis is the steel vessel, modular design. Resources for the near-term, including the balance of 1985, should be focused on pursuing this concept to establish whether there is a sufficient basis for Project commitment. Key distinguishing features of the modular HTGR include:

1. The core size and power density are limited such that the fuel particle coatings retain the fission products to an acceptable degree under all licensing basis events, with decay heat removal being accommodated by the passive mechanisms of radiation and conduction. This feature is expected to simplify the overall concept, particularly the licensing and operations activities.
2. The nuclear steam supply system and other systems within the nuclear island are shop fabricated and assembled to nuclear standards, while the balance of plant is largely manufactured and constructed to conventional fossil plant standards. This is expected to improve the productivity and reduce the schedule and field erection costs.
3. The plant is composed of independent reactor units of approximately 250 MWt/100 MWe that can be constructed as a cluster of modules or sequentially constructed to more closely match load growth requirements and the utility's financing constraints.

The preferred strategy for deploying the modular HTGR is through a Licensing and Technology Test Project that would be used to implement the "license by test" concept as well as to demonstrate the performance, cost and schedule features of the modular HTGR. Further, international cooperation, particularly with the Federal Republic of Germany, should be expanded to the maximum degree in order to reduce the overall costs and risks to the U.S.

A major ongoing effort within GCRA has been to coordinate the private-sector efforts in support of such a Project initiative. To this end, exploratory activities are underway to establish a consolidated vendor/supplier/AE entity that can efficiently design and build the Licensing and Technology Test Project. The intent is that upon successful completion, multiple vendor entities would be

able to offer commercial modular HTGR plants. In addition, efforts are continuing to establish the detailed utility/user requirements of such a Project, candidate sites, host or supporting utility arrangements, as well as arrangements for broad utility support for the Project.

With regard to the HTGR Program at the NRC, we are pleased to note that during the past year, activities have begun in earnest to establish an HTGR Licensing Plan and interactions with the Advanced Reactors Group within the NRC. It is our approach, as documented in the Licensing Plan, to get agreement with the NRC during 1985 on overall licensing criteria, licensing basis events, and scope of safety-related structures, systems and components which appropriately reflect the unique characteristics of the modular HTGR concept. With this as a foundation, activities in 1986 will concentrate on specific issues pertinent to how well the design and technology program satisfy the criteria base. Finally, in 1987 we are requesting that the NRC review the design and safety assessments provided in a Preliminary Safety Information Document (PSID), to be developed in 1986, and issue a licensability statement. The primary function of this licensability statement would be to determine at an early stage whether the NRC finds any feature of the design or proposed technology program to be unacceptable. We would like to commend the Advanced Reactors Group for their responsiveness in reviewing the material provided.

However, the future of the Advanced Reactor Programs at the NRC is presently uncertain and we urge careful attention and support by this Subcommittee to remedy this situation. First of all, we urge that the NRC issue an Advanced Reactor Policy Statement that will provide a stable policy and budget framework within the NRC and the Advanced Reactor Group within NRR in particular. A draft statement has been in review within the NRC for over a year.

Regarding the HTGR safety activities at the NRC in FY 1986, the programs should focus on the steel vessel, modular HTGR concept while maintaining a cadre of generic technical expertise on HTGRs appropriate for the continued operation of the Fort St. Vrain plant. Specifically, we are asking for a commitment of NRC resources as well as funding of outside staff support for the activities described below:

Modular HTGR Concept Licensing:

Efforts should center on activities identified in the HTGR Licensing Plan. The activities planned include development of criteria, selection of licensing bases events, and concept design review. Technical issues arising as a result of uncertainties relating to top-level regulatory criteria compliance will be identified and necessary research activities planned. The completion of a broad risk assessment of this concept might be useful in identifying and prioritizing such issues.

Generic HTGR Research:

Research applicable to PSV should be continued so that NPC retains the ability to resolve issues as they may arise so as to minimize any unnecessary outage time. Generic research on graphite and fuel, for example, would be potentially useful for all HTGR concepts.

We recommend that these efforts be focused specifically on the HTGR and be funded at a level of approximately \$2 million in FY 1986.

On the local front, I would like to update you on the Fort St. Vrain power plant. Last year, I reported to you about the improving performance of the plant, but unfortunately, this trend did not continue through 1984. On January 20, 1984 the plant underwent a planned shutdown for its third refueling along with an extensive refurbishment and maintenance program that lasted until the second week in June. Shortly after the plant was restarted, a plant upset occurred which resulted in a significant ingress of water into the primary coolant system via the helium circulators' bearing seals. In the subsequent safe shutdown, it was observed that six pairs of control rods failed to drop into the reactor. While this event in itself posed no safety hazard, the subsequent investigation revealed that excess moisture in the primary helium system had caused a corrosion problem in the control rod drives. During the past months, we have made the appropriate improvements at the plant and we are currently refurbishing the control rod drives. We hope to be able to restart the plant before long.

In spite of such first-of-a-kind difficulties, it should be recognized that Fort St. Vrain has provided critical confirmation and demonstration of many inherent HTGR features. For example, the amount of radioactivity carried in the helium coolant has been less than two percent of the design limit, demonstrating the structural integrity of the coated fuel particles. Personnel exposure data for the U.S. indicate that Fort St. Vrain has had an average annual person-rem exposure rate per GW(e)-year approximately a hundred times lower than the rate in light water reactor plants. This low personnel exposure level is probably the lowest of any commercial nuclear plant in the world and is even more significant in view of the fact that Fort St. Vrain allows virtually unlimited access into the reactor building for all operations and maintenance personnel.

As another example, temperature transients have been slow and predictable, even during periods of temporary loss of forced cooling, demonstrating the large heat capacity of the core. Operation to date has achieved 1000°F steam temperatures and a net efficiency of 38.5%--the highest of any nuclear plant in the U.S.

As part of a continuing commitment to improve the performance of Fort St. Vrain, Public Service Company of Colorado plans to spend about \$16 million in 1985. Furthermore, lessons-learned are being incorporated by the Program in subsequent HTGR designs. For example, a new helium circulator design, possibly using an electric motor drive and magnetic bearings that do not require water, is being investigated for possible application in the modular HTGR and might even be able to replace the existing circulators in Fort St. Vrain. We are confident that Fort St. Vrain will become a reliable source of kilowatt-hours for our customers as well as continue to provide critical information regarding the demonstration of HTGR systems and components. My Company is proud of our role as owner/operator of Fort St. Vrain and we remain committed to the HTGR concept.

Mr. Chairman, I appreciate the opportunity to present the utility/user support and perspective on the HTGR Program to your Subcommittee. With your continued support, we will bring to fruition an HTGR Program that is responsive to utility/user needs and the nation as a whole.

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APPENDIX II

THURSDAY, FEBRUARY 6, 1986

ADDITIONAL MATERIAL SUBMITTED FOR THE HEARING RECORD

Opening Statement
Congressman John F. Seiberling

hearings on the fiscal year 1987 NRC budget
before the Subcommittee on Energy and the Environment
February 6, 1986

Mr. Chairman, today we must consider the President's proposed fiscal year 1987 budget for the Nuclear Regulatory Commission. Of course, one of our chief concerns will be the effect that the expected automatic cuts required under the Gramm-Rudman law will have on the NRC's ability to protect the public. If the NRC has to make further cuts in its budget, I think it is absolutely essential that the agency not compromise its primary responsibility to protect the public health and safety.

One key ingredient in the NRC's responsibility to the public is that the public have access to information about the actions the NRC is taking in various areas. I think that the Commission may be heading in the wrong direction by attempting to close many of its meetings to the public. In fact, as many of us remember, last year the Commission reversed its position on the reauthorization of the Price-Anderson Act by merely initialing a memo without even holding a secret meeting, much less a public meeting. It is important in a democracy that the public know about the actions of its government officials and its regulatory bodies. Therefore I am strongly supporting legislation to reverse the Commission's closed meeting policy.

On another matter of particular concern to me and my constituents, last week an earthquake struck Northeastern Ohio. The epicenter of the quake occurred between 10-15 miles from the Perry nuclear power plant, located just outside of Cleveland. The plant is not yet in operation, but fuel was scheduled to be loaded at the plant in the very near future. To my knowledge, an earthquake of this magnitude has never occurred before at a nuclear power plant in the United States. Although the plant apparently did not sustain any major structural damage from the quake, preliminary readings at the plant indicate that the earthquake may have caused seismic forces in excess of those the plant was designed to withstand.

On the day that the earthquake struck, Congressman Dennis Eckart and I sent a letter to Chairman Palladino asking about the effects of the earthquake on the structural integrity and safety of the Perry plant. On Monday, February 3, Congressman Eckart and I were briefed by the NRC staff members who actually inspected the plant. I certainly do appreciate the prompt manner in which the NRC staff answered our questions, and the detailed nature of the briefing.

However, I am concerned that the preliminary data from the seismic devices at the Perry plant indicated that the force of the earthquake may have exceeded those specified in the seismic design for the plant. It is my understanding that currently only the vendors of the devices that measured the seismic forces at the Perry plant are analyzing the data from these devices. I think that it is essential that there be an independent review of this seismic data. Therefore, Congressman Eckart and I have made a formal request that the Advisory Committee on Reactor Safeguards (ACRS) and its seismic consultants also review this data. If the force of the earthquake truly did exceed the force that the plant was designed to withstand, then perhaps the NRC seismic regulations need to be strengthened.

Luckily, the Perry plant did not suffer any apparent major damage from this earthquake. But questions still exist about what would have happened if this earthquake had hit after the plant had been operating for several years. Apparently, this brand new power plant withstood the earthquake very well. Would the plant have fared as well after ten years of stress from normal plant operations?

This committee needs to be sure that the NRC's seismic regulations will minimize the harm from any future earthquakes at any of the nuclear power plants in our country. The probabilities were very low that an earthquake of this magnitude would occur at the Perry plant, yet it happened. We need to be sure that when another freak act of nature hits, other nuclear power plants will stand up as well as the Perry plant apparently did.

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STATEMENT
OF THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

BEFORE THE

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

CONCERNING
FY 1987 BUDGET

PRESENTED BY NUNZIO J. PALLADINO, CHAIRMAN

SUBMITTED: FEBRUARY 6, 1986

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U.S. NUCLEAR REGULATORY COMMISSION
FY 1987 BUDGET TESTIMONY

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, THE COMMISSION
APPEARS BEFORE YOU TODAY TO DISCUSS NRC'S FY 1987 BUDGET REQUEST.
WITH ME TODAY ARE MY FELLOW COMMISSIONERS, THE ACTING EXECUTIVE
DIRECTOR FOR OPERATIONS AND THE DIRECTORS OF THE PRINCIPAL OFFICES
OF THE COMMISSION.

OVERVIEW

OUR OMB APPROVED BUDGET REQUEST FOR FISCAL YEAR 1987 IS FOR \$405
MILLION. THIS IS \$13 MILLION BELOW OUR FY 1986 APPROPRIATION
PRIOR TO ANY REDUCTION RESULTING FROM THE PROVISIONS OF THE
BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT OF 1985
(PUBLIC LAW 99-177) AND \$43 MILLION BELOW OUR FY 1985

APPROPRIATION. OUR STAFFING CEILING IS ALSO BEING REDUCED BY 122 FULL-TIME EQUIVALENT STAFF.

APPENDIX A TO OUR TESTIMONY GRAPHICALLY DEMONSTRATES HOW ACTUAL PURCHASING POWER HAS DECREASED EVERY YEAR SINCE 1981. THE PAST TWO YEARS HAVE SEEN THE MOST SIGNIFICANT REDUCTIONS.

PUBLIC LAW 99-177 WILL REDUCE NRC AN ADDITIONAL \$18 MILLION IN FY 1986. A REDUCTION OF THIS MAGNITUDE, ALMOST HALF-WAY THROUGH THE FISCAL YEAR, WILL HAVE A SIGNIFICANT IMPACT ON THE PROGRAMS NECESSARY TO SUPPORT OUR REGULATORY RESPONSIBILITIES. THE STAFF IS CURRENTLY EVALUATING THE SPECIFIC IMPACTS THAT WILL RESULT IN FY 1986. FURTHERMORE, ALTHOUGH THE FUTURE IMPACT PUBLIC LAW 99-177 WILL HAVE ON NRC IS NOT YET KNOWN, I CAN TELL YOU THAT, IF THE RECENT HIGHLY PUBLICIZED PROJECTIONS ARE ACCURATE, THE NUCLEAR REGULATORY COMMISSION'S PROGRAMS TO ENSURE THE ADEQUATE PROTECTION OF THE PUBLIC HEALTH AND SAFETY WOULD BE SERIOUSLY JEOPARDIZED IN FY 1987.

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WHILE WE RECOGNIZE AND ARE SUPPORTIVE OF THE NEED FOR BUDGET AUSTERITY, THE CONGRESS AND THE PUBLIC MUST RECOGNIZE THAT WITH THESE REDUCED RESOURCE LEVELS THE NRC WILL BE PERFORMING LESS REGULATORY OVERSIGHT ACTIVITIES, NOT MORE. OUR CAPABILITY TO RESPOND TO AND RESOLVE ISSUES FROM UNPLANNED EVENTS SUCH AS THOSE AT DAVIS-BESSE, SAN ONOFRE, RANCHO SECO, TVA, AND KERR-MCGEE IN A COMPREHENSIVE AND TIMELY MANNER WILL BE DIMINISHED. AT THE SAME TIME, ANY FORWARD-LOOKING ACTIONS AND PROGRAMS NECESSARY TO MEET FUTURE ISSUES AND CHALLENGES HAVE BEEN REDUCED OR ELIMINATED.

THERE WILL SOON BE OVER ONE HUNDRED NUCLEAR POWER PLANTS LICENSED FOR OPERATION. RECENT EVENTS HAVE DEMONSTRATED THAT THE RESOURCES NEEDED FOR REGULATING AN OPERATING REACTOR CAN BE ABOUT AS MUCH AS FOR LICENSING A REACTOR. AFTER THE OPERATING LICENSE IS ISSUED, RESOURCES ARE STILL NEEDED TO PROCESS LICENSE AMENDMENTS, CONDUCT RELATED SAFETY EVALUATIONS, LICENSE PLANT OPERATORS, AND RESPOND TO AND EVALUATE THE IMPACT OF UNANTICIPATED EVENTS. IN ADDITION, MORE OPERATING REACTORS WILL REQUIRE MORE RESOURCES FOR TASKS,

SUCH AS CONDUCTING THE RESIDENT AND REGION-BASED INSPECTION PROGRAMS AND ANALYZING OPERATIONAL DATA.

APPENDIX B TO OUR TESTIMONY SUMMARIZES THE AGENCY'S BUDGET REQUEST BY MAJOR BUDGET CATEGORIES. THE REDUCTIONS VARY IN MAGNITUDE, BUT ALL MAJOR PROGRAMS ARE AFFECTED. I WILL BRIEFLY SUMMARIZE EACH PROGRAM. PLEASE NOTE THAT THE TABLE IN APPENDIX B DOES NOT REFLECT THE DETAIL RESULTING FROM BUDGET CUTS DUE TO PUBLIC LAW 99-177.

REACTOR REGULATION

THE NUCLEAR REACTOR REGULATION PROGRAM IS IN TRANSITION. WHILE DEMAND FOR RESOURCES NEEDED TO REVIEW NEW LICENSE APPLICATIONS DECREASES, THE DEMAND FOR RESOURCES NEEDED TO EVALUATE SAFETY-RELATED LICENSING ACTIONS, RESPOND TO EVENTS, AND PERFORM OVERALL PROJECT MANAGEMENT IS INCREASING WITH THE NUMBER OF REACTORS COMING ON-LINE. FOR EXAMPLE, ABOUT 600-700 MORE LICENSING ACTIONS

ARE ANTICIPATED FOR OPERATING PLANTS IN FY 1987 THAN WERE ACTUALLY RECEIVED IN FY 1985.

IN FY 1987, WE WILL CONTINUE TO WORK ON OPERATING LICENSE AND STANDARD PLANT APPLICATIONS STILL PENDING. WE ALSO INTEND TO CONDUCT ACTIVE PROGRAMS TO OVERSEE THE SAFE OPERATION OF OPERATING PLANTS, TO LICENSE REACTOR OPERATORS, TO CONTINUE WORKING ON UNRESOLVED AND HIGH PRIORITY GENERIC SAFETY AND HUMAN FACTORS ISSUES, AND WORK ON INITIATIVES RELATED TO SEVERE ACCIDENTS AND SAFETY GOALS.

FY 1987 BUDGET CUTS IN THE NUCLEAR REACTOR REGULATION PROGRAM WILL REDUCE OR ELIMINATE IMPROVEMENTS IN SUCH AREAS AS RISK ASSESSMENT, HUMAN FACTORS, AND ADVANCED REACTOR CONCEPTS. FURTHER, WE WILL NOT BE ABLE TO IMPLEMENT THE INTEGRATED SAFETY ASSESSMENT PROGRAM AS A SEPARATE PROGRAM. ALSO, OUR ABILITY TO RESOLVE MAJOR UNANTICIPATED PROBLEMS AT OPERATING FACILITIES AND THOSE UNDER LICENSING REVIEW WILL BE SEVERELY CONSTRAINED.

RESEARCH

IN TERMS OF CONSTANT DOLLARS, OUR RESEARCH BUDGET WILL BE LOWER IN FY 1987 THAN IT WAS WHEN THE AGENCY WAS FORMED IN 1975. BETWEEN 1981 AND 1987, THE NUCLEAR REGULATORY RESEARCH PROGRAM WILL HAVE BEEN REDUCED BY MORE THAN \$110 MILLION, ABOUT 53 PERCENT. JOINT PROGRAMS WITH OTHER PARTIES AND IMPROVED OPERATING ECONOMICS CANNOT MAKE UP FOR THESE REDUCTIONS OVER THE YEARS. THE REDUCTIONS IN THE FY 1987 RESEARCH BUDGET WILL MEAN AN END TO SOME PROGRAMS AND SIGNIFICANT DELAYS IN OR DEFERRAL OF OTHERS.

THE ABSENCE OF NEEDED SAFETY INFORMATION WILL LEAD TO GREATER CONSERVATISM IN THE REGULATORY PROCESS AND COULD LEAD TO PLANT SHUTDOWNS AND POWER REDUCTIONS. IN THE LONG RUN, IT COULD COST THE PUBLIC MORE BY NOT ADEQUATELY FUNDING THE NRC RESEARCH PROGRAM.

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THE NRC RESEARCH PROGRAM IS THE PRINCIPAL U.S. GOVERNMENT PROGRAM OF NUCLEAR SAFETY RESEARCH AND IS AN ESSENTIAL PART OF OUR REGULATORY PROCESS. IT PROVIDES US WITH THE SOUND TECHNICAL INFORMATION WE NEED TO DEAL EFFECTIVELY WITH COMPLEX TECHNICAL ISSUES IN REACTOR REGULATION, INSPECTION, AND NUCLEAR MATERIAL SAFETY AND SAFEGUARDS.

A MAJOR FEATURE OF THE RESEARCH PROGRAM IS ITS EMPHASIS ON SAFETY AT OPERATING FACILITIES WHERE PROBLEMS CONTINUE TO ARISE. PROBLEMS WITH CORROSION, RADIATION EMBRITTLEMENT, AND FATIGUE HAVE RAISED SPECIFIC QUESTIONS ABOUT THE CONTINUED SAFETY OF SOME CURRENTLY OPERATING PLANTS. OPERATIONAL PROBLEMS INCLUDE CRACKED PIPING AT BOILING WATER REACTORS, STEAM GENERATOR DEGRADATION AT PRESSURIZED WATER REACTORS, DEFECTIVE VALVES AND RELAYS, AND INADEQUATE MEANS FOR DETECTING AND CHARACTERIZING FLAWS.

SOME OF THESE QUESTIONS ARE BEING RESOLVED BY RESEARCH AND REGULATORY ACTION, BUT MORE QUESTIONS ARE LIKELY TO CONTINUE TO

ARISE AS PLANTS MATURE AND TECHNOLOGY EVOLVES. THE NRC AS WELL AS INDUSTRY MUST BE PREPARED FOR THESE AND OTHER NEW SAFETY ISSUES. AS SUCH, A STABLE, PROPERLY BALANCED RESEARCH PROGRAM IS ESSENTIAL FOR THE COMMISSION TO CARRY OUT ITS RESPONSIBILITIES FOR EFFECTIVE NUCLEAR SAFETY REGULATION.

NRC RESEARCH EFFORTS PLANNED FOR FY 1987 WILL FOCUS PRIMARILY ON:

- THE STUDY OF PLANT AGING AND DETERIORATION OF EQUIPMENT AND STRUCTURES IMPORTANT TO SAFE OPERATION;
- EVALUATION OF RECENT SOURCE-TERM WORK TO DEVELOP CRITERIA FOR EXAMINATION OF INDIVIDUAL PLANTS AND TO IDENTIFY REGULATIONS THAT COULD BE AFFECTED BY NEW SOURCE-TERM KNOWLEDGE;
- SEVERE ACCIDENT SEQUENCE ANALYSIS, DAMAGED FUEL, FISSION PRODUCT RELEASE AND OTHER RESEARCH NEEDED TO PROVIDE A SOUND TECHNICAL BASIS FOR IMPLEMENTATION OF THE SEVERE ACCIDENT POLICY;

- ASSESSMENT OF COMPUTER CODES USED TO EVALUATE THE SAFETY RESPONSE TO A WIDE RANGE OF TRANSIENTS AND ACCIDENTS;
- SEISMIC ANALYSIS, AND
- DEVELOPMENT OF METHODS AND TOOLS FOR EVALUATING DOE'S PROPOSED NUCLEAR WASTE REPOSITORY.

INSPECTION AND ENFORCEMENT

THE INSPECTION AND ENFORCEMENT (IE) PROGRAM WILL CONTINUE TO EMPHASIZE ON-SITE INSPECTION OF REACTORS. IT WILL PROVIDE FOR A SECOND RESIDENT INSPECTOR AT MOST OPERATING SITES AND WILL CONTINUE THE ASSIGNMENT OF AT LEAST TWO RESIDENT INSPECTORS AT ALL CONSTRUCTION AND PRE-OPERATIONAL TESTING SITES. WE ALSO INTEND TO CONTINUE TO FOCUS OUR ATTENTION ON OPERATING EXPERIENCE TO IDENTIFY ISSUES OF GENERIC SAFETY SIGNIFICANCE AND LICENSEES REQUIRING INCREASED REGULATORY ATTENTION.

WORK ON THE QUALITY ASSURANCE INITIATIVES DESCRIBED IN THE STAFF'S REPORT ON IMPROVING QUALITY AND THE ASSURANCE OF QUALITY IN THE DESIGN AND CONSTRUCTION OF NUCLEAR POWER PLANTS, SUBMITTED TO THE CONGRESS IN APRIL 1984, WILL BE SEVERELY CURTAILED IN FY 1986 AS A RESULT OF PUBLIC LAW 99-177 REDUCTIONS INCLUDING INITIATIVES RELATED TO FUTURE APPLICATIONS FOR CONSTRUCTION. TECHNICAL ASSISTANCE TO INSPECTIONS OF NUCLEAR SUPPLIERS AND DESIGNERS WILL BE REDUCED BY 50 PERCENT IN FY 1986. THERE WILL ONLY BE MINIMUM FUNDING TO SUPPORT TEAM INSPECTIONS OF MAJOR NUCLEAR POWER PLANT MODIFICATIONS DURING OUTAGES.

FUNDING REDUCTIONS WILL ALSO OCCUR IN FYS 1986 AND 1987 IN THE SPECIAL TEAM INSPECTION PROGRAMS (CONSTRUCTION APPRAISAL TEAM, INTEGRATED DESIGN INSPECTION PROGRAM AND INDEPENDENT DESIGN VERIFICATION PROGRAM) FOR CONSTRUCTION SITES, IN THE EMERGENCY PREPAREDNESS PROGRAM, AND IN TECHNICAL SUPPORT TO THE STAFF FOR PROBLEM FACILITIES IN BOTH CONSTRUCTION AND OPERATION. OTHER

INSPECTION AND ENFORCEMENT PROGRAMS WILL BE RETAINED ESSENTIALLY AT THEIR FY 1986 LEVELS.

NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

DURING THE REMAINDER OF FY 1986 AND IN FY 1987, THE NUCLEAR MATERIAL SAFETY AND SAFEGUARDS (NMSS) PROGRAM WILL FOCUS ON SEVERAL PRIORITY ACTIVITIES.

SPECIFICALLY, WE WILL CONTINUE TO CARRY OUT OUR EXTENSIVE REGULATORY RESPONSIBILITIES UNDER THE NUCLEAR WASTE POLICY ACT AND THE URANIUM MILL TAILINGS RADIATION CONTROL ACT. WE WILL BE EXAMINING ALL ASPECTS OF THE RECENT URANIUM HEXAFLORIDE INCIDENT AT THE KERR-MCGEE SEQUOYAH FACILITY TO DETERMINE IF ANY REGULATORY CHANGES ARE APPROPRIATE. WE WILL BE EXAMINING THE ADEQUACY OF NRC SAFEGUARDS REQUIREMENTS AT LICENSED FACILITIES IN LIGHT OF AN INCREASED SENSITIVITY TO CURRENT TERRORIST ACTIVITIES ELSEWHERE IN THE WORLD. AND, WE WILL BEGIN EXECUTING OUR RESPONSIBILITIES

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UNDER THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985.

HOWEVER, YOU SHOULD BE AWARE THAT THE NRC FY 1987 BUDGET REQUEST DOES NOT CONTAIN RESOURCES TO IMPLEMENT THE RECENTLY ENACTED LOW-LEVEL WASTE ACT AMENDMENTS. WE ARE CURRENTLY EXAMINING WHERE WE CAN REPROGRAM RESOURCES FROM OTHER IMPORTANT ACTIVITIES WITHIN THE AGENCY.

OTHER IMPORTANT NMSS EFFORTS IN FY 1987 INCLUDE IDENTIFYING AND RESOLVING ISSUES ASSOCIATED WITH SPENT FUEL SHIPMENT AND STORAGE, RESPONDING TO UNANTICIPATED EVENTS INVOLVING FUEL CYCLE FACILITIES AND MATERIALS LICENSEES, COMPLETION OF LICENSING CASES FOR FUEL CYCLE FACILITIES AND THOUSANDS OF MATERIAL LICENSEES, AND THE CONDUCT OF A LIMITED NUMBER OF OPERATING REACTOR SAFEGUARDS REGULATORY EFFECTIVENESS REVIEWS.

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BUILDING CONSOLIDATION

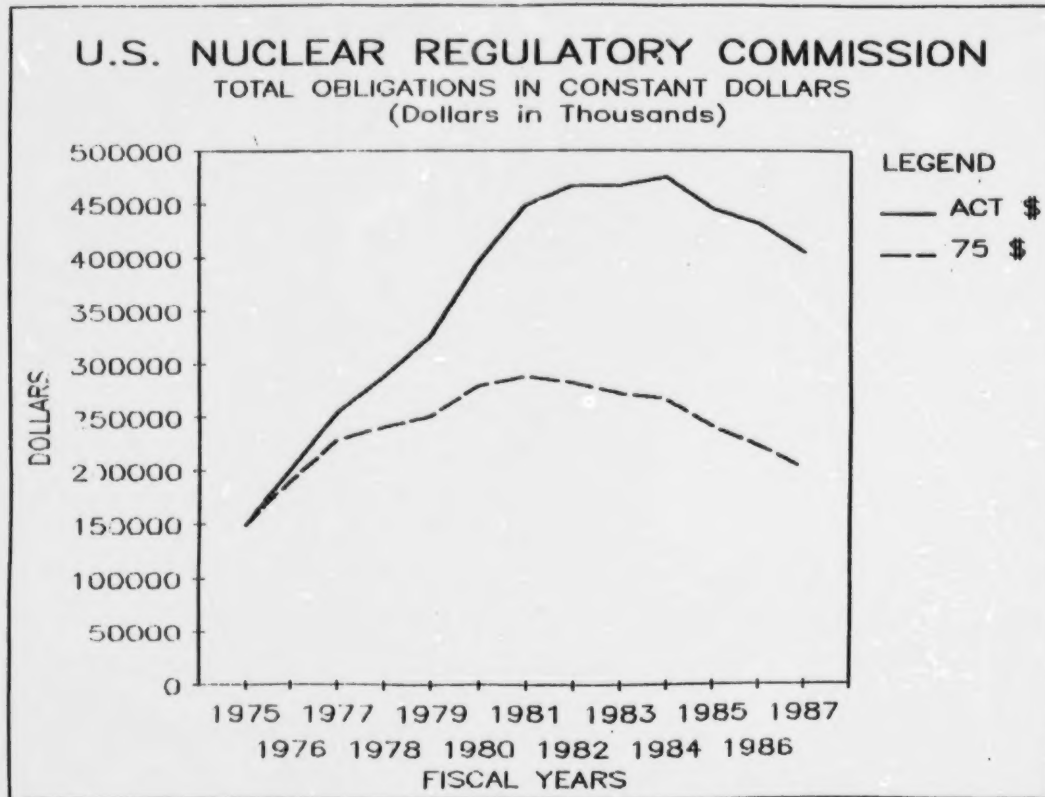
OF URGENT INTEREST TO THE COMMISSION IS THE MATTER OF NRC BUILDING CONSOLIDATION. AS YOU KNOW THE NRC STAFF HAS BEEN HOUSED IN TEN BUILDINGS IN ROCKVILLE, BETHESDA, SILVER SPRING AND THE DISTRICT. WE APPRECIATE THE COMMITTEE'S CONTINUED SUPPORT IN OUR QUEST TO CONSOLIDATE AND HOPE OUR EFFORTS WILL BEAR FRUIT.

CONCLUSION

THE DETAILS OF OUR BUDGET REQUEST ARE CONTAINED IN OUR BUDGET SUBMISSION, WHICH HAS ALREADY BEEN PROVIDED TO THE SUBCOMMITTEE. APPENDIX C PROVIDES EXAMPLES OF NRC ACCOMPLISHMENTS IN FY 1985.

IN CLOSING, LET ME REEMPHASIZE THAT THE BUDGET REQUEST SUBMITTED TO CONGRESS REPRESENTS A MINIMUM PROGRAM IN THE VIEW OF THE COMMISSION. WE URGE YOUR STRONG SUPPORT FOR THE FULL AMOUNT OF OUR REQUEST.

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ATTACHMENT A

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ATTACHMENT B

BUDGET RESOURCE SUMMARY ^{1/}

PROGRAMS	FY 1985		FY 1986 ^{2/}		FY 1987 ^{3/}	
	FTE	\$	FTE	\$	FTE	\$
NUCLEAR REACTOR REGULATION	711	86.5	716	83.8	683	<u>79.8</u>
INSPECTION AND ENFORCEMENT	1,105	94.6	1,140	98.2	1,135	<u>98.6</u>
NUCLEAR MAT'L SAFETY AND SAFEGUARDS	362	40.0	370	41.0	360	<u>39.5</u>
NUCLEAR REGULATORY RESEARCH	226	150.0	207	134.7	180	
	<u>113.5</u>					
PROGRAM TECHNICAL SUPPORT	365	30.8	355	30.3	330	<u>30.5</u>
PROGRAM DIRECTION AND ADMIN.	<u>729</u>	<u>43.5</u>	<u>703</u>	<u>43.3</u>	<u>681</u>	
	<u>43.1</u>					
	3,498	445.4	3,491	431.3	3,369	405.0

^{1/} DOLLARS ARE EXPRESSED IN MILLIONS.^{2/} ESTIMATES DO NOT REFLECT THE \$18 MILLION REDUCTION REQUIRED BY THE BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT OF 1985.^{3/} DEFICIT CONTROL ACT REDUCTIONS ARE NOT KNOWN AT THIS TIME.

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ATTACHMENT C

EXAMPLES OF FY 1985 ACCOMPLISHMENTS

- 0 ISSUED INITIAL LICENSES (RESTRICTED TO 5% POWER) FOR 10 REACTORS, 8 OF WHICH WERE GRANTED FULL-POWER AUTHORIZATIONS. IN ADDITION, 3 PREVIOUSLY LICENSED REACTORS RECEIVED FULL-POWER AUTHORIZATIONS.
- 0 DEALT WITH PROBLEMS AND UNANTICIPATED EVENTS INVOLVING REACTORS UNDER CONSTRUCTION, OPERATING REACTORS, MATERIALS LICENSEES AND FUEL CYCLE FACILITIES, INCLUDING INITIATING A PROGRAM TO RESPOND TO REACTOR INCIDENTS.
- 0 CARRIED OUT OUR RESPONSIBILITIES UNDER THE NUCLEAR WASTE POLICY ACT.
- 0 THE COMMISSION ISSUED:
 - SEVERE ACCIDENT POLICY STATEMENT;
 - NEW BACKFIT RULE TO IMPROVE METHODS FOR ADMINISTERING THE IMPOSITION OF NEW REQUIREMENTS ON LICENSEES;
 - POLICY STATEMENT ON TRAINING;
 - FINAL RULE ON PRESSURIZED THERMAL SHOCK;
 - PROPOSED RULE FOR PUBLIC COMMENT ON CRITERIA FOR DECOMMISSIONING FACILITIES;
 - PROPOSED POLICY STATEMENT FOR REGULATION OF ADVANCED NUCLEAR POWER PLANTS.
- 0 PROVIDED CONGRESS WITH REVISED LICENSING AND STANDARDIZATION LEGISLATION AND SUBMITTED SIX OTHER MISCELLANEOUS LEGISLATIVE PROPOSALS FOR CONGRESSIONAL CONSIDERATION.
- 0 MONITORED AND TOOK APPROPRIATE REGULATORY ACTION ON TMI CLEANUP ACTIVITIES.

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STATEMENT OF COMMISSIONER JAMES K. ASSELSTINE
BEFORE THE
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
FEBRUARY 6, 1986

Mr. Chairman, I would like to add a few brief comments on the Administration's FY 1987 budget request for the NRC. The Commission's testimony has identified a number of NRC programs that will have to be scaled back or eliminated altogether as a result of the reductions to our budget request imposed by OMB. As the Commission's testimony notes, many of NRC's forward-looking programs will be either reduced substantially or terminated. This will leave us with little in the way of change from the reactive approach to regulation that we have employed in the past. It will also hinder our ability to respond effectively to serious operating events when they do occur.

The consequence of this reactive approach to regulation is, I think, clear. By the end of 1985, eight operating reactors -- Davis-Besse, Rancho Seco, San Onofre Unit 1, and TVA's Sequoyah and Browns Ferry plants -- were shut down as a result of serious operating events or a breakdown in the licensee's management so severe that neither we nor the licensee had confidence that its plants could be operated safely. This group of plants is equal to the number of plants that received new full-power operating licenses last year, and represents about 8 percent of the total number of plants with operating license. The Commission's original FY 1987 budget

proposal contained a few modest efforts to improve our ability to identify such problem cases before they result in serious operating events that pose a potential hazard to the public. These efforts included the expanded use of team inspections to review plant operations, maintenance and surveillance activities and modification work at the plants. They also included efforts to take a more integrated look at safety at a few plants. These were steps toward a more proactive approach to regulation that is needed if we are to improve the performance of the existing plants and reduce the number of serious operating events. In addition, the Commission had begun some regulatory review work on advanced reactor concepts such as the high-temperature gas cooled reactor and the PIUS light-water reactor that hold the promise of greater simplicity, higher margins of safety and ease of construction when compared with existing reactors. I believe that the consequence of reducing or eliminating these more forward-looking programs will be that we will see more serious operating events of the type experienced this past year. As the number of operating plants continues to increase, as the existing plants grow older, and as we see continued evidence of the complexities and hidden vulnerabilities in these plants, we should be doing more rather than less forward-looking work.

Like my colleagues on the Commission, I, too, recognize the need for budget austerity. But rather than eliminate these needed programs, I would prefer to explore some more creative measures to obtain the necessary funding. An alternative, which appears to have the support of the Administration and OMB, is to obtain additional funding from the industry. I would recommend that the Congress consider two options here.

The first is funding the NRC's high-level radioactive waste disposal program from the Nuclear Waste Fund established by the Nuclear Waste Policy Act. Our high-level waste program is focused on the licensing of the high-level waste repository. Just as with DOE's repository development program, our repository licensing program is required to support the use of commercial power reactors. The costs of the repository program -- regulatory as well as developmental -- should be paid by those who benefit from the use of nuclear power. This could be accomplished in a variety of ways, including direct reimbursement to NRC from the Nuclear Waste Fund for the annual costs of our high-level waste licensing and research expenses or by means of an annual license fee to be paid by DOE and recovered from the Fund. Whatever means is used, it seems to me that the utilities through the Fund, rather than the taxpayers, should pay for the regulatory costs of the repository that are attributable to the commercial industry.

The second option that I believe the Congress should consider is the imposition of annual charges on our licensees to recover a greater portion of the costs of our reactor safety research program from the industry. At present, we charge license fees to cover the costs of our licensing and inspection activities that can be attributed to a particular facility. However, we do not take that approach with our safety research programs. Many of these programs provide a direct benefit to the industry. For example, as the Commission's budget testimony and our more detailed budget description note, some of our research programs are aimed at determining the acceptability of plant operations with degraded safety equipment such as cracked pipes in boiling water reactors and weakened steam generators in

pressurized water reactors. These and other conditions constitute reductions in the quality and condition of safety systems from what was expected when the plants were licensed. Other NRC research programs are aimed at reducing the level of conservatism in our existing safety regulations -- actions which can reduce plant operating, maintenance and surveillance costs, and which could result in higher power levels for the plants. Because it has been difficult to quantify and assign such benefits to individual plants, we have not attempted to impose the costs of these research programs on the industry. While the industry has voluntarily participated in some safety research programs, the lion's share of the cost has been paid over the years by the taxpayer.

I believe that a greater portion of the costs of these programs should be recovered from the industry. There are several ways of accomplishing this. One means is the imposition of annual charges as proposed in the Consolidated Omnibus Budget Reconciliation Act of 1985. Whatever the means used, recovery of a greater portion of the costs of our safety research program from the industry, coupled with payment of the repository regulatory costs from the Nuclear Waste Fund, would provide the funds needed to carry out a set of aggressive, forward-looking regulatory initiatives to improve the performance of our commercial power reactors without increasing, and perhaps even by reducing somewhat, the financial burden on the Federal taxpayer. I believe that now is the time to consider such a creative approach for funding NRC's regulatory programs.

2/6/86

PERSONAL REMARKS BY CHAIRMAN PALLADINO

INTRODUCTION: MR. CHAIRMAN, SINCE THIS MAY BE THE LAST TIME I WILL BE APPEARING BEFORE YOU, I WOULD LIKE TO PROVIDE SOME PERSONAL OBSERVATIONS BASED ON MY EXPERIENCES AS CHAIRMAN OF THE NRC FOR MORE THAN 4-1/2 YEARS. MY OBSERVATIONS CONCERN NRC'S MAJOR GOALS, THE FUTURE OF NUCLEAR POWER AND NUCLEAR REGULATION, AND SOME SUGGESTIONS FOR THE CONGRESS.

FIRST ARE MY OBSERVATIONS CONCERNING THE ACCOMPLISHMENT OF NRC'S MAJOR GOALS. DURING THE PAST 4-1/2 TO 5 YEARS:

1. OUR REGULATORY OVERSIGHT OF THE NUCLEAR INDUSTRY HAS RESULTED IN CONTINUED ASSURANCE OF PUBLIC PROTECTION; IN FACT, I BELIEVE THAT, AS A GENERAL PROPOSITION, NUCLEAR POWER IS SAFER NOW THAN EVER BEFORE.

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2. WE HAVE LICENSED ABOUT 2 DOZEN NEW REACTORS, WITH PROPER REGARD TO SAFETY AND WITH LITTLE OR NO UNWARRANTED DELAY. WE ALSO COMPLETED THE THREE MILE ISLAND 1 RESTART PROCEEDING.
3. WE HAVE MADE MUCH PROGRESS IN THE CLEANUP OF THREE MILE ISLAND 2 AND IN WASTE MANAGEMENT.
4. WE HAVE MADE SIGNIFICANT ADVANCES IN DEFINING A SAFETY GOAL, AND I HOPE FINAL COMMISSION ACTION ON A POLICY STATEMENT ON THIS MATTER WILL OCCUR BEFORE MY TERM ENDS.
5. WE HAVE IMPROVED CONTROL OVER THE REQUIREMENTS NRC LEVIES ON THE NUCLEAR INDUSTRY; AND
6. WE HAVE PROPOSED LEGISLATION TO THE CONGRESS TO STREAMLINE THE LICENSING PROCESS, FOCUSING ON ENCOURAGING AND PROVIDING INCENTIVES FOR THE USE OF STANDARDIZED NUCLEAR POWER PLANTS IN THE FUTURE.

HOWEVER, SOME IMPORTANT GOALS HAVE NOT YET BEEN ACCOMPLISHED.

I HAVE IN MIND THE FOLLOWING:

1. FULL UNDERSTANDING OF THE RADIOACTIVE SOURCE TERM AND ITS IMPLICATIONS FOR NUCLEAR REGULATION LIES WELL IN THE FUTURE.
2. ALSO, THERE ARE STILL TOO MANY OPERATING INCIDENTS AND CONSTRUCTION PROBLEMS; THESE INDICATE THAT OUR COMMON GOAL WITH THE NUCLEAR INDUSTRY -- EXCELLENCE -- HAS NOT BEEN FULLY ACHIEVED IN ALL CASES.

WITH RESPECT TO THE FUTURE, I BELIEVE THAT THE ATTAINMENT OF CONFIDENCE IS A KEY OBJECTIVE. LET ME EXPLAIN:

- O IF NUCLEAR POWER IS TO CONTINUE TO PLAY AN IMPORTANT ROLE IN AMERICA'S ENERGY MIX, IT MUST BE BACKED BY CONFIDENCE -- CONFIDENCE BOTH IN THE NUCLEAR INDUSTRY AND IN NUCLEAR REGULATION.

- O ONE RESULT OF CONTINUED INCIDENTS AND PROBLEMS AT
NUCLEAR FACILITIES IS A PERSISTENT UNEASINESS ABOUT
NUCLEAR POWER ON THE PART OF THE PUBLIC, INVESTORS,
AND THE CONGRESS. IN SUCH A CLIMATE, REGULATORY
REACTIONS NECESSARILY INCREASE. WHEN INCIDENTS OCCUR WE
MUST REACT.
- O THE NUCLEAR INDUSTRY HAS THE JOB OF BUILDING NUCLEAR
FACILITIES CORRECTLY AND OPERATING THEM SAFELY. THEREFORE,
IF THE INDUSTRY WANTS THE REGULATORY REACTIONS TO BE
REDUCED, IT HAS TO REDUCE THE INCIDENTS AND PROBLEMS.
- O FEWER INCIDENTS AND PROBLEMS SHOULD ALSO REDUCE PEOPLE'S
UNEASINESS ABOUT NUCLEAR POWER. IN SHORT, THE BETTER THE
INDUSTRY DOES ITS JOB AND THE CLOSER IT GETS TO EXCELLENCE,
THE MORE CONFIDENCE THERE WILL BE IN NUCLEAR POWER.

- O HOWEVER, WE REGULATORS HAVE THE JOB OF MAKING SURE THAT THE NUCLEAR INDUSTRY DOES ITS JOB RIGHT. THUS, THE BETTER WE DO OUR JOB, THE MORE CONFIDENCE THERE WILL BE ALSO.

TO DO OUR JOB BETTER, SOME OF THE MAJOR THINGS I BELIEVE THE NRC NEEDS TO FOCUS ON IN THE FUTURE ARE AS FOLLOWS:

- O FIRST OF ALL, TO HELP ASSURE THAT THE PUBLIC WILL CONTINUE TO BE PROTECTED, NRC'S HIGHEST PRIORITY SHOULD BE TO KEEP THE PRESSURE ON THE INDUSTRY TO STRIVE FOR AND ACHIEVE EXCELLENCE IN ALL ASPECTS OF NUCLEAR FACILITY OPERATIONS AND CONSTRUCTION.
- O THE U.S. IS NOW CLOSE TO HAVING 100 OPERATING NUCLEAR POWER PLANTS. SINCE ONLY ABOUT A QUARTER OF THAT NUMBER OF PLANTS ARE STILL UNDER CONSTRUCTION, WE HAVE TO REORIENT THE BULK OF OUR ACTIVITIES TO CONCENTRATE ON OPERATIONS.

- O IMPROVEMENTS HAVE BEEN MADE IN OUR ABILITY TO REGULATE OPERATING PLANTS, TO LEARN ABOUT INCIDENTS, AND TO LEARN FROM THEM AS WELL. HOWEVER, WE NEED TO GIVE CONTINUING ATTENTION TO THESE OPERATIONS AND TO LEARNING FROM ALL INCIDENTS.

- O BECAUSE OF THE GREAT IMPORTANCE OF REACTOR OPERATOR PROFICIENCY AND PROPER MAINTENANCE, I SUGGEST THAT NRC CONSIDER INCREASING ITS REQUALIFICATION EXAMINATIONS OF LICENSED OPERATORS AND ITS MONITORING OF THE NUCLEAR INDUSTRY'S MAINTENANCE PRACTICES.

- O NRC ALSO NEEDS TO DEVELOP THE BEST WAYS TO ACT ON THE MANY WARNING SIGNS THAT EXIST BEFORE SERIOUS PROBLEMS DEVELOP. THE GOAL SHOULD BE TO FIND THE ROOT CAUSES AND FIX THEM EARLY-ON.

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- O NRC SHOULD CONTINUE TO THOROUGHLY INVESTIGATE SERIOUS INCIDENTS OR ACCIDENTS THAT DO OCCUR, AGAIN BY FOCUSING ON THE ROOT CAUSES AND CORRECTIVE ACTIONS NEEDED TO PREVENT RECURRENCE.

- O FINALLY, NRC NEEDS TO UNDERSTAND THE EFFECTS OF AGING ON PLANT EQUIPMENT AND OPERATIONS BEFORE AGING CAUSES PROBLEMS AND BEFORE NRC HAS TO DEAL WITH NUMEROUS REQUESTS FOR EXTENSION OF PLANT LIFE.

NOW LET ME TURN TO SOME SUGGESTIONS FOR THE CONGRESS. I WILL BEGIN BY NOTING THAT, WHEN MY TERM IS UP, I WILL HAVE APPEARED AT APPROXIMATELY 70 CONGRESSIONAL HEARINGS. I ALSO WILL HAVE SIGNED APPROXIMATELY 600 LETTERS TO MEMBERS OF THE HOUSE AND SENATE. GIVEN THAT BASE OF EXPERIENCE, I HOPE YOU WILL NOT THINK ME PRESUMPTUOUS IF I PROVIDE THE FOLLOWING THOUGHTS FOR YOU TO CONSIDER AS YOU OVERSEE NRC AND DELIBERATE ON NUCLEAR POWER LEGISLATION:

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- O ONE OF THE BRIGHT SPOTS ABOUT MY JOB AS CHAIRMAN HAS BEEN THE ABILITY TO OBSERVE THE OUTSTANDING WORK OF MANY OF THE GOVERNMENT EMPLOYEES AT THE NRC. WE HAVE A TRULY DEDICATED AND TALENTED STAFF WHOSE MAIN INTEREST IS IN FULFILLING NRC'S RESPONSIBILITY TO PROTECT PUBLIC HEALTH AND SAFETY. I HOPE THAT, IN CARRYING OUT YOUR OVERSIGHT OF THE AGENCY, THE CONGRESS CAN FROM TIME-TO-TIME RECOGNIZE THE EXCELLENT CONTRIBUTIONS OF NRC'S STAFF.
- O ALSO, NRC MUST HAVE ADEQUATE RESOURCES TO DO ITS JOB. DURING MY TENURE ALONE, THE CONGRESS HAS CUT OUR BUDGET REQUESTS BY SEVERAL TENS OF MILLIONS OF DOLLARS. ULTIMATELY, WE CAN ONLY REGULATE TO THE EXTENT WE ARE FUNDED.
- O WITH REGARD TO FUTURE LEGISLATION, I RECOMMEND THAT YOU:
- PASS SOME FORM OF THE LICENSING REFORM LEGISLATION THAT WE AND OTHERS HAVE SUBMITTED; AND

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-- PASS A FORM OF THE PRICE ANDERSON LEGISLATION THAT ASSURES THE PUBLIC WILL GET PROMPT COMPENSATION FOR VALID CLAIMS IN CASE OF INJURY TO LIFE OR PROPERTY IF A NUCLEAR ACCIDENT OCCURS. (ALTHOUGH EARLIER I SUPPORTED AN APPROACH WITH NO CAP, I WOULD PREFER A PRICE ANDERSON ACT WITH A CAP TO NO ACT AT ALL.)

O LAST, I URGE YOU TO RECONSIDER MY RECOMMENDATION OF A YEAR AGO TO CHANGE THE NRC TO A SINGLE ADMINISTRATOR FORM OF AGENCY.

-- AS WE MOVE MORE TOWARD AN AGENCY THAT OVERSEES ONLY OPERATING FACILITIES, I BELIEVE WE MOVE FARTHER FROM A COMMISSION FORM OF LEADERSHIP THAT IS BEST SUITED TO DEBATE.

-- FURTHER, GIVEN THE PRESENT LEGAL RESTRICTIONS ON COMMISSIONERS' ABILITY TO DISCUSS POINTS OF VIEW BEFORE REACHING DECISIONS, EVEN THE VIABILITY OF DEBATE IS IN QUESTION.

-- A SINGLE ADMINISTRATOR IS ALSO MORE LIKELY TO BE ABLE
TO IMPLEMENT THE EFFICIENCIES NEEDED IN TIMES OF
AGENCY BUDGET REDUCTIONS.

O IF, HOWEVER, THE CONGRESS RETAINS THE PRESENT COMMISSION
STRUCTURE FOR THE NRC, I WOULD RECOMMEND CAREFUL REVIEW
AND POSSIBLE REVISION OF THE SUNSHINE ACT. IN ITS REVIEW,
THE CONGRESS MAY WISH TO CONSIDER THE STUDIES CONDUCTED
BY THE ADMINISTRATIVE CONFERENCE AND THE AMERICAN BAR
ASSOCIATION.

IN CLOSING, I WANT TO SAY THAT I SINCERELY APPRECIATE THE
OPPORTUNITY TO HAVE KNOWN ALL OF YOU AND TO HAVE WORKED SO
CLOSELY WITH YOU OVER THESE LAST 4-1/2 TO 5 YEARS.

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SEVENTH-NINTH CONGRESS

MORRIS K. UDALL, ARIZONA, CHAIRMAN

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STANLEY SCOVILLE
STAFF DIRECTOR
AND COUNSELROY JONES
ASSOCIATE STAFF DIRECTOR
AND COUNSELLEE McLVAN
GENERAL COUNSELRICHARD ADRIAN
CHIEF MINORITY COUNSELCOMMITTEE ON INTERIOR
AND INSULAR AFFAIRSU.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515

January 22, 1986

The Honorable Nunzio Palladino
 Chairman
 United States Nuclear Regulatory Commission
 Washington, D.C. 20555

Dear Mr. Chairman:

The Subcommittee on Energy and the Environment invites the Commission to testify on February 6, 1986 in an oversight hearing on the NRC's budget request for fiscal year 1987.

The hearing on February 6 will provide the Subcommittee an opportunity to review the Commission's revised FY 1987 budget recommendations and the impact of these budget reductions on the Commission's programs. The Subcommittee is also interested in the Commission's views on pending regulatory issues.

In addition, it would be helpful to the Subcommittee if the Commission would respond to the questions attached to this letter.

As in the past, and in keeping with Committee rules, please supply 25 copies of the Commission's proposed testimony at least 48 hours in advance of the hearing, and an additional 75 copies on the morning of the hearing. Also, please be prepared at the hearing to make a brief oral summary of the Commission's written statement. The Subcommittee also welcomes any separate or dissenting remarks that might be offered by individual commissioners.

The hearing is scheduled to begin at 9:45 a.m. on February 6, 1986 in 1324 Longworth House Office Building. I appreciate your attention to these matters, and look forward to your meeting with the Subcommittee.

Sincerely,

M. K. Udall
 MORRIS K. UDALL
 Chairman

Attachment

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QUESTIONS FOR THE HEARING ON NRC FY87 BUDGET REQUEST

1. CHANGING NATURE OF WORKLOAD

- (a) Please identify all nuclear power plants now under construction and the date by which low-power and full-power operating licenses are expected to be granted. Please provide a list of all reactors which received operating licenses since 1980 including the dates on which the LPOL's and FPOL's were issued and the dates at which the following occurred: criticality, 5% power, and 100 hours of full power operations.
- (b) Please describe what steps are being taken or considered to reallocate agency resources from licensing plants to ensuring the safe operation of operating plants.

2. REGULATORY RESEARCH

To what extent are the resources of the Office of Nuclear Regulatory Research being applied to the problems of operating reactors (e.g., reducing accident initiators and improving the technology for monitoring, diagnosing, controlling, and recovering from accidents when they occur) as opposed to detailed analysis of accident consequences? What were the major findings of experiments, tests, and analyses conducted in FY 1985? What regulatory change resulted from research conducted in the years 1980-85?

3. SOURCE TERM RESEARCH; EMERGENCY PLANNING

- (a) What is the status of NRC and industry sponsored source term research? What level of confidence does the Commission have in these research results, particularly in light of recent experiments that appear to contradict earlier experiments on iodine behavior under accident conditions? Please describe the major uncertainties in source term analyses for the major reactor types.
- (b) Is the Commission considering modifying any existing safety regulations on the basis of source term research results? If so, which regulations and when?
- (c) In particular, what is the status of Baltimore Gas & Electric Company's application to reduce the radius of the emergency planning zone for its Calvert Cliffs plant from ten to two miles? What part will source term research play in the Commission's decision on this application?

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4. PROBABILISTIC RISK ASSESSMENT

To what extent does the Commission now employ probabilistic risk assessment (PRA) in regulatory decisionmaking? What are the limitations on the use of PRA's? What are the dominant uncertainties which limit the application of PRA's?

5. ENVIRONMENTAL QUALIFICATION

Please identify all plants that do not now meet the Commission's environmental qualification requirements and, for each such plant, the basis for extending the deadline for meeting these requirements.

6. BACKFIT RULE

Please comment on the Commission's experience with the new backfit rule. Why wasn't the rule applied to the proposed revisions to the Commission's radiation protection standards? Please identify all actions required of licensees since the backfit rule took effect to which the rule has been applied.

7. ACCIDENT INVESTIGATION

What steps will be taken to ensure the independence of inter-office incident investigation teams? What was the basis for the Commission's decision not to establish a Commission-level office or to recommend creation of an independent agency to investigate nuclear plant accidents?

8. INSTITUTE OF NUCLEAR POWER OPERATIONS

To what extent is the Commission depending on the services of the Institute of Nuclear Power Operations to resolve generic safety issues? What criteria does the Commission employ in deciding whether to rely on INPO rather than the Commission's Office of Inspection and Enforcement? What is the Commission's position with respect to receiving INPO reports and placing them in the public document room? What is the rationale for this position?

9. TVA

Commissioner Asselstine has stated that the regulatory breakdown at TVA is "the single greatest failure of the NRC regulatory program since the Three Mile Island accident." What is each Commissioner's view as to the severity of the situation, the need

for changes in NRC practices and procedures to assure that situations of this type do not recur?

10. RANCHO SECO/PRESSURIZED THERMAL SHOCK

What is the Commission's response to the observation that the December 26 accident at Rancho Seco was a close call which emphasizes the need for a reassessment of the adequacy of the NRC's efforts to assure that a pressurized thermal shock event does not lead to a catastrophic accident?

11. KERR-MCGEE INCIDENT

Please provide a brief statement describing the January 4 accident at Kerr-McGee's UF₆ plant, the causes of this event, and the need, if any, for regulatory changes in light of this event. Is there a regulatory gap? What steps have been taken or are under consideration to prevent such accidents in the future? Why has the Commission not required uranium processing facilities and similar materials licensees to maintain financial protection under the Price-Anderson Act?

12. MIXED WASTES AND URANIUM MILL TAILINGS

- (a) Please describe the status of negotiations between the Commission and the Environmental Protection Agency regarding regulation of low-level nuclear waste disposal and uranium mill tailings. If the Commission believes legislation is necessary to clarify the jurisdictional roles of the agencies, specifically what legislative changes does the Commission recommend?
- (b) Please provide the Subcommittee with an overview of any on-going litigation concerning NRC's role in the regulation of uranium mill tailings, and a description of the status of negotiations between the Commission and the Environmental Protection Agency regarding mill tailings regulation.
- (c) Are the amounts currently held in surety arrangements for active uranium processing sites adequate to ensure reclamation according to existing standards? If not, why not? Does NRC intend to modify its surety requirements to compensate for any difference?

13. IMPLEMENTATION OF THE NUCLEAR WASTE POLICY ACT

- (a) What does the Commission view as the major legal, technical, and administrative issues facing the NRC concerning the Civilian Radioactive Waste Management Program?

- (b) Please provide an overview of NRC's role with regard to overseeing the Department of Energy's implementation of the high-level waste program. What specifically will be the Commission's responsibilities concerning the proposed construction of a Monitored Retrievable Storage facility?
- (c) NRC comments on the Department's Mission Plan and draft Project Decision Schedule are critical of DOE's nine month reduction in the amount of time allotted for NRC review of a repository license application. By letter of October 24, 1985, Chairman Palladino identified six actions which, together, might allow the Commission to comply with DOE's schedule. To what extent have subsequent DOE actions or communications indicated DOE's intent to act on any or all aspects of the six-point program?

14. USER FEES

Please provide a statement of the Commission's views on section 7601 of the Conference Report on the Consolidated Omnibus Reconciliation Act of 1985 (131 Cong. Rec. H13114 (Dec. 19, 1985)), which would require the NRC to collect 33 percent of its annual budget from its licensees through annual fees.

15. PRICE-ANDERSON

- (a) Please comment on proposals to allow utilities paying deferred premiums under section 170b of the Atomic Energy Act to recover the amount of such premiums from any person that may have been liable for the accident. In particular, what impact would adoption of this proposal have on;
 - (a) the ability of the public to recover promptly and efficiently in the event of an accident; (b) the availability of insurance coverage for nuclear energy activities; (c) the safety consciousness of utilities, vendors, part suppliers, and other persons who might be liable under the proposal?
- (b) Please comment on the implications of redefining "public liability" under section 11w of the Atomic Energy Act so as to exclude claims for punitive damages.

16. ROLE OF INTERVENORS, WHISTLEBLOWERS, AND OTHERS

Please identify major instances in which significant safety issues have come to light as a result of actions taken by licensees' employees or contractors who bypassed the licensees' established reporting system, or by public interest groups, intervenors, INPO, or Congressional oversight committees? Why

was the NRC unable to uncover these problems through established reporting and inspection procedures?

17. LEGAL OFFICES

Please describe the Commission's plans for combining its Office of General Counsel with the Office of the Executive Legal Director. What is the purpose of this action? What are the implications of this action?

18. OPEN COMMISSION MEETINGS

What is the status of the Commission's rule revising its former Government in the Sunshine Act regulations? What benefits does the Commission expect from implementation of this rule that are not provided by the former regulations? What types of Commission discussions would be closed to the public under the new rule? What safeguards have been established to ensure that the public will have access to all discussions to which it is entitled under the Sunshine Act?

19. BUILDING CONSOLIDATION

What is the status of efforts to achieve building consolidation? In the event the NRC's offices are consolidated outside of the District of Columbia, will the Commission maintain a public document room within the District of Columbia?

QUESTION 1. (A) PLEASE IDENTIFY ALL NUCLEAR POWER PLANTS NOW UNDER CONSTRUCTION AND THE DATE BY WHICH LOW-POWER AND FULL-POWER OPERATING LICENSES ARE EXPECTED TO BE GRANTED. PLEASE PROVIDE A LIST OF ALL REACTORS WHICH RECEIVED OPERATING LICENSES SINCE 1980 INCLUDING THE DATES ON WHICH THE LPOL'S AND FPOL'S WERE ISSUED AND THE DATES AT WHICH THE FOLLOWING OCCURRED: CRITICALITY, 5% POWER, AND 100 HOURS OF FULL POWER OPERATIONS.

ANSWER.

TABLE 1 LISTS ALL PLANTS NOW UNDER ACTIVE CONSTRUCTION, THE APPLICANT'S PROJECTED LOW POWER LICENSE DATE, AND AN ESTIMATE OF THE FULL POWER LICENSE DATE. THIS ESTIMATE IS BASED ON A TWO MONTH LOW POWER TEST PROGRAM FOR PRESSURIZED WATER REACTORS (PWRs) AND A THREE MONTH LOW POWER TEST PROGRAM FOR BOILING WATER REACTORS (BWRs). IN THOSE INSTANCES WHERE THE APPLICANT HAS PROVIDED A TEST SCHEDULE, THEIR DATE IS GIVEN FOR FULL POWER LICENSING, AND IS INDICATED BY AN ASTERISK.

TABLE 2 LISTS ALL PLANTS LICENSED SINCE 1980. THE TABLE SHOWS THE DATES OF: LOW POWER AND FULL POWER LICENSE ISSUANCE, INITIAL CRITICALITY, 5% POWER, AND COMMERCIAL OPERATION. THE STAFF DOES NOT HAVE INFORMATION REGARDING THE DATE ON WHICH THE PLANTS ATTAINED 100 HOURS OF FULL POWER OPERATION; HOWEVER, PLANTS ARE OFTEN DECLARED COMMERCIAL IMMEDIATELY AFTER THE 100 HOUR WARRANTY RUN.

ENCLOSURE:

TABLE 2

QUESTION 1.(A) (CONTINUED)

TABLE 1
ESTIMATED OPERATING LICENSE DATES

<u>PLANT</u>	<u>LOW POWER LICENSE DATE</u>	<u>FULL POWER LICENSE DATE</u>
SHOREHAM 1	7/85C	N/S
COMANCHE PEAK 1	N/S	N/S
WATTS BAR 1	N/S	N/S
COMANCHE PEAK 2	N/S	N/S
MILLSTONE 3	11/85C	1/86*
PALO VERDE 2	12/85C	3/86*
CATAWBA 2	2/86	5/86
PERRY 1	2/86	5/86*
HOPE CREEK	3/86	5/86*
CLINTON 1	3/86	5/86*
NINE MILE POINT 2	5/86	8/86
HARRIS 1	6/86	8/86
SEABROOK 1	6/86	8/86
BRAIDWOOD 1	9/86	11/86
BYRON 2	10/86	12/86
VOGTLE 1	12/86	2/87
PALO VERDE 3	3/87	5/87
WATTS BAR 2	3/87	5/87
BEAVER VALLEY 2	4/87	7/87
SOUTH TEXAS 1	6/87	8/87
BRAIDWOOD 2	1/88	3/86
VOGTLE 2	3/88	5/88
SOUTH TEXAS 2	12/88	2/89
LIMERICK 2	7/90	10/90
BELLEFONTE 1	1/93	3/93
BELLEFONTE 2	1/95	3/95

* APPLICANT'S PROJECTION OF READINESS FOR FULL POWER LICENSING.

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QUESTION 1.(a)

TABLE 2

Milestone Data for Plants Licensed Since TMI

Plant Name	Type	NSSS	5% Power Lic. Issued	Begin Fuel Load	Complete Fuel Load	Initial Criticality	Full Power Lic. Issued	Exceed 5% Power	Commercial Operation
Sequoyah 1	PHR	West	29-Feb-80	29-Feb-80	05-Mar-80	05-Jul-80	17-Sep-80	02-Oct-80	01-Jul-81
North Anna 2	PHR	West	11-Apr-80	12-Apr-80	15-Apr-80	12-Jun-80	21-Aug-80	25-Oct-80	14-Dec-80
Salco 2	PHR	West	13-Apr-80	23-May-80	27-May-80	02-Aug-80	20-May-81	29-May-81	13-Oct-81
Farley 2	PHR	West	23-Oct-80	08-Mar-81	11-Mar-81	08-May-81	31-Mar-81	27-May-81	30-Jul-81
McGuire 1	PHR	West	12-Jun-81	28-Jan-81	02-Feb-81	08-Aug-81	08-Jul-81	12-Sep-81	01-Dec-81
Sequoyah 2	PHR	West	29-Jun-81	03-Jul-81	07-Jul-81	06-Nov-81	15-Sep-81	22-Dec-81	01-Jun-82
San Onofre 2	PHR	CE	16-Feb-82	19-Feb-82	26-Feb-82	26-Jul-82	07-Sep-82	17-Sep-82	08-Aug-83
LaSalle 1	BWR	GE/PM II	17-Apr-82	18-Apr-82	30-Apr-82	21-Jun-82	13-Aug-82	15-Aug-82	01-Jan-84
Grand Gulf 1	BWR	GE/PM III	16-Jun-82	01-Jul-82	06-Aug-82	18-Aug-82	31-Aug-84	08-Nov-84	01-Jul-85
Susquehanna 1	BWR	GE/PM II	17-Jul-82	27-Jul-82	12-Aug-82	10-Sep-82	12-Nov-82	12-Nov-82	08-Jun-83
Summer 1	PHR	West	06-Aug-82	10-Aug-82	13-Aug-82	22-Oct-82	12-Nov-82	16-Nov-82	01-Jan-84
San Onofre 3	PHR	CE	15-Nov-82	15-Nov-82	21-Nov-82	29-Aug-83	16-Sep-83	18-Sep-83	01-Apr-84
McGuire 2	PHR	West	03-Mar-83	04-Mar-83	08-Mar-83	08-May-83	27-May-83	28-May-83	01-Mar-84
St. Lucie 2	PHR	CE	06-Apr-83	06-Apr-83	10-Apr-83	02-Jun-83	10-Jun-83	13-Jun-83	08-Aug-83
LaSalle 2	BWR	GE/PM II	16-Dec-83	30-Dec-83	11-Jan-84	10-Mar-84	23-Mar-84	28-Mar-84	17-Oct-84
OMP-2	BWR	GE/PM II	20-Dec-83	25-Dec-83	12-Jan-84	19-Jan-84	13-Apr-84	20-Apr-84	13-Dec-84
Susquehanna 2	BWR	GE/PM II	23-Mar-84	28-Mar-84	13-Apr-84	08-May-84	27-Jun-84	27-Jun-84	08-Feb-85
Diablo Canyon 1	PHR	West	19-Apr-84	15-Nov-83	20-Nov-83	29-Apr-84	02-May-84	21-Nov-84	07-May-85
Callaway 1	PHR	West	11-Jun-84	13-Jun-84	20-Jun-84	02-Oct-84	18-Oct-84	19-Oct-84	19-Dec-84
Limerick 1	BWR	GE/PM II	26-Oct-84	26-Oct-84	15-Nov-84	27-Dec-84	08-Aug-85	10-Aug-85	1
Byron 1	PHR	West	31-Oct-84	02-Nov-84	17-Nov-84	02-Feb-85	14-Feb-85	24-Feb-85	10-Sep-85
Catawba 1	PHR	West	06-Dec-84	19-Jul-84	23-Jul-84	07-Jan-85	17-Jan-85	21-Jan-85	29-Jun-85
Shoreham 1 (FL)	BWR	GE/PM II	07-Dec-84	21-Dec-84	19-Jan-85	15-Feb-85	1	1	1
Shoreham 1 (SI)	BWR	GE/PM II	03-Jul-85	1	1	1	1	1	1
Waterford 3	PHR	CE	18-Dec-84	18-Dec-84	23-Dec-84	04-Mar-85	16-Mar-85	18-Mar-85	24-Sep-85
Palo Verde 1	PHR	CE	31-Dec-84	07-Jan-85	11-Jan-85	25-May-85	01-Jun-85	06-Jun-85	1
Wolf Creek	PHR	West	11-Mar-85	12-Mar-85	17-Mar-85	22-May-85	04-Jun-85	06-Jun-85	03-Sep-85
Ferns 2	BWR	GE/PM I	20-Mar-85	20-Mar-85	04-Apr-85	21-Jun-85	15-Jul-85	1	1
Diablo Canyon 2	PHR	West	26-Apr-85	07-May-85	15-May-85	20-Aug-85	26-Aug-85	03-Nov-85	1
River Bend	BWR	GE/PM III	29-Aug-85	31-Aug-85	21-Sep-85	31-Oct-85	20-Nov-85	25-Nov-85	1
Millstone 3	PHR	West	25-Nov-85	26-Nov-85	02-Dec-85	23-Jan-86	1	1	1
Palo Verde 2	PHR	CE	09-Dec-85	11-Dec-85	16-Dec-85	1	1	1	1

1 Milestone not completed

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QUESTION 1. (B) PLEASE DESCRIBE WHAT STEPS ARE BEING TAKEN OR CONSIDERED TO REALLOCATE AGENCY RESOURCES FROM LICENSING PLANTS TO ENSURING THE SAFE OPERATION OF OPERATING PLANTS.

ANSWER.

THE NRC BUDGET REQUEST CONTINUES TO REFLECT A SHIFT IN THE AGENCY'S WORKLOAD FROM LICENSING TO OPERATING REACTORS. THIS IS PARTICULARLY TRUE FOR SEVERAL OF THE PROGRAMS CARRIED OUT BY NRR, IE AND RES. SOME SPECIFIC ACTIONS TAKEN DURING THE PAST YEAR INCLUDE THE FOLLOWING:

- THE OFFICE OF NUCLEAR REACTOR REGULATION (NRR) RECENTLY IMPLEMENTED A MAJOR REORGANIZATION TO REFLECT THE CHANGED ENVIRONMENT FROM EMPHASIS ON LICENSING PLANTS TO EMPHASIS ON REGULATING PLANTS IN OPERATION. THE MATRIX ORGANIZATION THAT WAS EFFECTIVE FOR MANAGING THE LICENSING OF PLANTS OF DIFFERING DESIGNS HAS BEEN REPLACED BY AN ORGANIZATION FOCUSED ON THE FOUR MAJOR REACTOR DESIGNS AND OPERATIONAL SAFETY MATTERS. THIS NEW ORGANIZATION RECOGNIZES THAT MANY OPERATIONAL PROBLEMS ARE DESIGN SPECIFIC AND STRENGTHENS THE PROJECT MANAGEMENT FUNCTION, WHICH IS THE PRIMARY FOCUS FOR COORDINATING THE SAFETY AND ENGINEERING REVIEWS FOR OPERATING REACTORS.

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QUESTION 1(B). (CONTINUED)

- IN THE PERSONNEL STAFFING AREA, INCREASED EMPHASIS IS BEING PLACED ON TRYING TO HIRE STAFF WITH NUCLEAR POWER PLANT OPERATIONAL EXPERIENCE AND PROVIDING FORMAL AND ON THE JOB TRAINING THAT RELATES TO OPERATIONS. SKILLS REQUIRED PRIMARILY FOR LICENSING REVIEWS HAVE BEEN REDUCED.
- INSPECTIONS ARE BEING INCREASED BY PLACING A SECOND RESIDENT INSPECTOR AT MOST SINGLE UNIT OPERATING REACTORS.
- MORE EMPHASIS HAS BEEN PLACED ON EVALUATING LICENSEE PERFORMANCE IN OPERATING THEIR PLANT THROUGH SUCH MEANS AS THE SYSTEMMATIC ASSESSMENT OF LICENSEE PERFORMANCE.
- EFFORTS TO RESPOND TO AND ANALYZE EVENTS AT OPERATING REACTORS HAVE INCREASED (E.G., THE UTILIZATION OF INCIDENT INVESTIGATION TEAMS).
- THE EVALUATION OF OPERATIONAL EXPERIENCE IS BEING PURSUED.
- DIFFERENT APPROACHES TO REGULATING NUCLEAR POWER PLANTS ARE BEING EXPLORED WITH EMPHASIS BEING PLACED ON REACTOR OPERATIONS (E.G., CONSIDERATION OF BALANCE-OF-PLANT IMPACT ON SAFE OPERATIONS).

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QUESTION 2. (A) TO WHAT EXTENT ARE THE RESOURCES OF THE OFFICE OF NUCLEAR REGULATORY RESEARCH BEING APPLIED TO THE PROBLEMS OF OPERATING REACTORS (E.G., REDUCING ACCIDENT INITIATORS AND IMPROVING THE TECHNOLOGY FOR MONITORING, DIAGNOSING, CONTROLLING, AND RECOVERING FROM ACCIDENTS WHEN THEY OCCUR) AS OPPOSED TO DETAILED ANALYSIS OF ACCIDENT CONSEQUENCES?

ANSWER.

A SUBSTANTIAL AND INCREASING PERCENTAGE OF THE COMMISSION'S RESEARCH PROGRAM IS BEING DIRECTED TOWARDS THE BROAD AREA OF ACCIDENT PREVENTION AND MITIGATION IN OPERATING REACTORS, AS DISTINCT FROM RESEARCH DIRECTED TOWARDS PROVIDING AN IMPROVED UNDERSTANDING OF THE PHYSICAL PROCESSES ASSOCIATED WITH SEVERE REACTOR ACCIDENTS.

RES IS DEVELOPING THE KNOWLEDGE NEEDED TO EVALUATE REACTOR PLANT SYSTEMS/SAFETY SYSTEMS SO THAT NRC CAN IDENTIFY POTENTIAL WEAKNESSES AND EVALUATE ALTERNATIVES TO REDUCE ACCIDENT RISK. THIS EFFORT INCLUDES CONDUCTING JOINT PROGRAMS WITH INDUSTRY TO DEVELOP IMPROVED UNDERSTANDING OF REACTOR PHENOMENOLOGY. SUCH UNDERSTANDING PROVIDES NRC WITH A BASIS FOR EVALUATING "SIMILAR" PLANTS WHEN INCIDENTS OCCUR, ASSESSING INDUSTRY PROPOSALS, AND SUPPORTING ANALYSIS OF PLANT OPERATIONAL EXPERIENCE.

FURTHER WORK ON RISK ASSESSMENT TECHNIQUES FOR REACTOR PLANTS WILL BE FOCUSING IN AREAS THAT ARE IMPORTANT TO SAFETY, SO THAT PROPER EMPHASIS AND DIRECTION CAN BE APPLIED TO IMPROVE REACTOR OPERATIONS. THIS WILL INCLUDE: RISK STATUS OF PLANT CONFIGURATION AND UNDERSTANDING THE IMPACT OF PLANNED RECONFIGURATIONS, E.G., EQUIPMENT OUTAGE FOR MAINTENANCE; THE REAL-TIME ANALYSIS OF OPERATING OCCURRENCES AND UNDERSTANDING OF WEAKNESSES IN PLANT DESIGN AND PROCEDURES.

QUESTION 2. (B) WHAT WERE THE MAJOR FINDINGS OF EXPERIMENTS, TESTS, AND ANALYSES CONDUCTED IN FY 1985?

ANSWER.

LISTED BELOW ARE ILLUSTRATIVE EXAMPLES OF MAJOR FINDINGS OF EXPERIMENTS, TESTS AND ANALYSES IN 1985:

- O VALIDATED APPLICABILITY OF THE "PRESSURIZED THERMAL SHOCK" ANALYSIS RULE AND SCREENING CRITERION DEVELOPED USING SMALL SPECIMENS, PRESSURE VESSELS AND WIDE-PLATE CRACK ARREST TESTS.
- O DEVELOPED EQUIPMENT AND COMPLETED ADVANCED NONDESTRUCTIVE EXAMINATION (SAFT-UT) OF PRIMARY PIPING IN TWO POWER REACTORS (DRESDEN 3 AND VERMONT YANKEE) TO RESOLVE REPORTED DISAGREEMENT BETWEEN COMMERCIAL INSPECTION TEAMS.
- O EXPERIMENTALLY SHOWED ERRORS IN THE INDUSTRY-PROPOSED RULES FOR EVALUATION OF CRACKS IN STAINLESS STEEL REACTOR PIPING, AND GUIDED DEVELOPMENT OF ACCEPTANCE RULES.
- O VALIDATED APPLICABILITY OF COMMERCIAL TUBE REPAIR TECHNIQUES FOR STEAM GENERATOR TUBES.

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QUESTION 2(B). (CONT'D)

- O DEMONSTRATED THE ACCEPTABILITY OF OVERLAY WELDING TO INHIBIT CRACK GROWTH IN BWR PIPING.
- O DEVELOPED CRITERIA FOR QUALIFYING PERSONNEL, PROCEDURES AND EQUIPMENT FOR INSERVICE INSPECTION OF REACTOR VESSELS AND PRIMARY PIPING FOR INCORPORATION IN NATIONAL STANDARDS USED BY INDUSTRY.
- O DEMONSTRATED THAT THE LIKELIHOOD OF A RUPTURE IN PRESSURIZED WATER REACTOR MAIN COOLANT PIPING IS VERY SMALL.
- O DEVELOPED AN APPROACH TO DETERMINE THE SEISMIC SAFETY MARGIN AVAILABLE FOR PLANTS TO WITHSTAND EARTHQUAKES LARGER THAN THEIR DESIGN BASIS.
- O DEVELOPED METHODS TO PREDICT, ON A PROBABILISTIC BASIS, THE BEHAVIOR OF STRUCTURES, SYSTEMS, AND COMPONENTS SUBJECTED TO LARGE EARTHQUAKES.

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QUESTION 2. (C) WHAT REGULATORY CHANGES RESULTED FROM
RESEARCH CONDUCTED IN THE YEARS 1980-1985?

ANSWER.

LISTED BELOW ARE SIGNIFICANT EXAMPLES OF REGULATORY CHANGES
RESULTING FROM RESEARCH, 1980-1985.

- O DEVELOPED NEW RULE, 10 CFR 50.61, TO ADDRESS PRESSURIZED
THERMAL SHOCK CRITERIA FOR REACTOR VESSELS.
- O. AMENDED PART 50, APPENDIX G, TO INCORPORATE UPDATED FRACTURE
TOUGHNESS REQUIREMENTS.
- O AMENDED PART 50, APPENDIX H, TO INCORPORATE UPDATED REACTOR
VESSEL MATERIALS SURVEILLANCE PROGRAM REQUIREMENTS.
- O AMENDED CODES AND STANDARDS RULE, 10 CFR 50.55a, TO
INCORPORATE BY REFERENCE LATER EDITIONS AND ADDENDA OF THE
ASME BOILER AND PRESSURE VESSEL CODE.
- O REVISED REGULATORY GUIDE 1.99 TO INCORPORATE NEW BASIS FOR
PREDICTING RADIATION DAMAGE TO REACTOR VESSEL MATERIALS.
- O ESTABLISHED CRITERIA FOR PROTECTION AGAINST STRESS CORROSION
CRACKING OF BWR PIPES.

QUESTION 2.C. (CONTINUED)

- O REVISED REGULATORY GUIDES 1.147, 1.84 AND 1.85 TO INDICATE ACCEPTABILITY OF ASME CODE CASES.
- O PROVIDED A BASIS FOR THE RESOLUTION OF THE UNRESOLVED SAFETY ISSUE (A-11) DEALING WITH THE EVALUATION OF REACTOR VESSEL INTEGRITY.
- O ESTABLISHED BASIS FOR LICENSEE EXEMPTIONS THAT PERMIT THE REMOVAL OF PIPE WHIP RESTRAINTS IN PRESSURIZED WATER REACTOR MAIN COOLANT PIPING SYSTEMS.
- O ESTABLISHED BASIS FOR LICENSEE EXEMPTIONS THAT PERMIT HIGHER PIPE DAMPING VALUES LEADING TO REMOVAL OF PIPE SNUBBERS.
- O ESTABLISHED BASIS FOR MODIFYING THE LICENSING STAFF POSITION REGARDING STRUCTURAL BUCKLING AROUND FRAMES.
- O ISSUED SECTION 50.49 TO 10 CFR PART 50 WHICH PROVIDES FOR THE ENVIRONMENTAL QUALIFICATION OF CERTAIN ELECTRIC EQUIPMENT.
- O ESTABLISHED BASIS FOR LICENSING STAFF TO EVALUATE AND CONFIRM USE OF IGNITERS FOR HYDROGEN CONTROL IN CONTAINMENT.
- O A PROPOSED REVISION TO THE ECCS RULE (10 CFR 50.46 AND APPENDIX K) HAS BEEN AGREED TO BY THE NRR AND RES TECHNICAL STAFF. A REGULATORY GUIDE SUPPORTING THIS PROPOSED RULE REVISION HAS BEEN DRAFTED AND IS BEING REVIEWED BY NRR STAFF.
- O A DETAILED TECHNICAL DOCUMENT SUMMARIZING THE RESEARCH SUPPORTING THE PROPOSED ECCS RULE REVISION HAS BEEN DRAFTED. THIS DOCUMENT HAS BEEN SENT TO INEL TO COORDINATE REVIEW AND COMMENT BY THE TECHNICAL COMMUNITY.

QUESTION 3(A). WHAT IS THE STATUS OF NRC AND INDUSTRY SPONSORED SOURCE TERM RESEARCH? WHAT LEVEL OF CONFIDENCE DOES THE COMMISSION HAVE IN THESE RESEARCH RESULTS, PARTICULARLY IN LIGHT OF RECENT EXPERIMENTS THAT APPEAR TO CONTRADICT EARLIER EXPERIMENTS ON IODINE BEHAVIOR UNDER ACCIDENT CONDITIONS? PLEASE DESCRIBE THE MAJOR UNCERTAINTIES IN SOURCE TERM ANALYSES FOR THE MAJOR REACTOR TYPES.

ANSWER.

SEVERE ACCIDENT RESEARCH (INCLUDING SOURCE TERM RESEARCH) CONDUCTED DURING THE PERIOD 1982-1985 HAS BEEN REVIEWED BY THE NRC STAFF AND USED AS THE FOUNDATION TO THE NRC STAFF DRAFT REASSESSMENT OF THE TECHNICAL BASES FOR ESTIMATING SOURCE TERMS, WHICH WAS ISSUED AS NUREG-0956 IN AUGUST 1985 FOR PUBLIC COMMENT. THE PUBLIC COMMENT PERIOD ENDED JANUARY 7, 1986. THE DRAFT DOCUMENT, COVERING THE SCIENCE OF SOURCE TERMS, CONCLUDED, AMONG OTHER THINGS, THAT THE ANALYTICAL PROCEDURE DEVELOPED FOR THE STAFF WAS A MAJOR ADVANCE OVER THE PROCEDURES OF THE REACTOR SAFETY STUDY (WASH-1400) BUT IDENTIFIED EIGHT MAJOR AREAS OF UNCERTAINTY WHICH REMAIN. NUREG-0956 WILL BE FOLLOWED, IN THE LATE SUMMER OF 1986, BY A COMPANION DOCUMENT (NUREG-1150)

QUESTION 3(A). (CONTINUED)

CONTAINING THE STAFF'S EVALUATION OF THE PUBLIC RISK FROM RADIOACTIVE SOURCE TERMS.

A SUMMARY REPORT OF INDUSTRY-SPONSORED RESEARCH WAS ISSUED IN NOVEMBER 1984. THROUGH THE INDUSTRY DEGRADED CORE RULEMAKING (IDCOR) PROGRAM, INDUSTRY HAS DEVELOPED A DETAILED RISK EVALUATION METHOD AND APPLIED IT TO FOUR PLANTS. NUMEROUS TECHNICAL ISSUES HAVE BEEN RESOLVED. SOME DIFFERENCES REMAIN BETWEEN THE IDCOR RISK ANALYSES AND THOSE PERFORMED BY THE NRC-SPONSORED RESEARCH PROGRAM. IDCOR HAS ALSO DEVELOPED AND TESTED A SIMPLIFIED METHODOLOGY TO BE USED BY UTILITIES FOR THE INDIVIDUAL PLANT EXAMINATIONS. THE METHOD HAS BEEN APPLIED TO THREE BWRs AND FOUR PWRs. THE NRC STAFF INTENDS TO REVIEW THE SIMPLIFIED METHODOLOGY WITH THE INTENTION OF APPROVING IT, WITH MODIFICATIONS, FOR USE BY LICENSEES IN THE SEARCH FOR PLANT-SPECIFIC HIGH RISK SEQUENCES.

RECENT EXPERIMENTS AT SANDIA NATIONAL LABORATORIES (SNL) HAVE INDICATED THAT RADIATION CAN CAUSE CESIUM IODIDE TO DISASSOCIATE YIELDING VOLATILE IODINE. ASSUMPTIONS THAT RESULTED FROM LOW IODINE RELEASES FROM THE TMI-2 ACCIDENT LED TO A BODY OF BELIEF THAT NRC WOULD FIND SIGNIFICANT QUANTITIES OF CESIUM IODIDE IN ITS IN-REACTOR EXPERIMENTS THAT ATTEMPTED TO DUPLICATE THE TMI CONDITIONS. IN FACT NRC HAS NOT FOUND SIGNIFICANT QUANTITIES OF CESIUM IODIDE IN ITS IN-REACTOR EXPERIMENTS AND THE SNL

QUESTION 3(A). (CONTINUED)

EXPERIMENTS MAY BE GIVING AN ANSWER AS TO WHY THIS IS SO, NRC IS STILL NOT ABLE TO FULLY EXPLAIN THE LOW IODINE RELEASES AT TMI BUT EXPECTS THE ANSWERS TO COME FROM RESULTS NOW IN HAND BUT NOT ANALYZED AND FROM EXPERIMENTS AND ANALYSES TO BE CONDUCTED IN FY 1986 AND FY 1987.

THE MAJOR AREAS (ISSUES) OF UNCERTAINTY AS IDENTIFIED IN DRAFT NUREG-0956 ARE:

1. NATURAL CIRCULATION IN THE REACTOR VESSEL
2. CORE MELT PROGRESSION AND HYDROGEN GENERATION
3. IN-VESSEL FISSION PRODUCT RELEASE FROM THE FUEL AND AEROSOL GENERATION
4. RETENTION AND REVAPORIZATION OF FISSION PRODUCTS IN THE REACTOR COOLANT SYSTEM
5. FISSION PRODUCT RELEASE AND AEROSOL GENERATION
6. SCRUBBING EFFICIENCY OF SUPPRESSION POOLS (BWRs) AND ICE COMPARTMENTS (PWRs)
7. CONTAINMENT PRESSURE LOADS
8. CONTAINMENT FAILURE MODES

NRC'S SEVERE ACCIDENT RESEARCH PROGRAM FOR FY 1986 AND FY 1987 IS ADDRESSING THESE UNCERTAINTIES AND NRC EXPECTS THE LEVEL OF UNCERTAINTY TO BE SIGNIFICANTLY REDUCED BY THE END OF 1987 THROUGH THESE PROGRAMS.

QUESTION 3: (B): IS THE COMMISSION CONSIDERING MODIFYING ANY EXISTING SAFETY REGULATIONS ON THE BASIS OF SOURCE TERM RESEARCH RESULTS? IF SO, WHICH REGULATIONS AND WHEN?

ANSWER:

BASED UPON SOURCE TERM RESEARCH, THE STAFF WILL BE REVIEWING A NUMBER OF REGULATIONS PLUS OTHER REGULATORY PRACTICES, SUCH AS REGULATORY GUIDES AND THE STANDARD REVIEW PLAN, AND INTENDS IN TIME TO PROPOSE CHANGES, AS APPROPRIATE.

AS FAR AS THE REGULATIONS ARE CONCERNED, THE FOLLOWING ARE POTENTIAL CANDIDATES FOR REVISION:

10 CFR 50.47 AND 10 CFR 50, APP. E	- EMERGENCY PLANNING
10 CFR 50.49	- ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED EQUIPMENT
10 CFR 50, APP. J	- CONTAINMENT LEAK RATE TESTS
10 CFR 100	- REACTOR SITE CRITERIA

THE NRC'S OFFICE OF NUCLEAR REGULATORY RESEARCH WILL PROVIDE A REVISED RISK PROFILE, BASED UPON THE LATEST ACCIDENT SOURCE TERM RESEARCH, FOR EACH OF SIX REFERENCE PLANTS REPRESENTING THE SPECTRUM OF U.S. LIGHT WATER REACTOR (LWR) CONTAINMENT TYPES. THIS REPORT, NUREG-1150, IS SCHEDULED TO BE ISSUED FOR PUBLIC COMMENT BY ABOUT AUGUST 1986. WHILE MANY CHANGES IN NRC RULES AND REGULATORY PRACTICES MUST AWAIT THE INSIGHTS TO BE GAINED FROM NUREG-1150, THE STAFF INTENDS TO INITIATE CHANGES AS DIRECTED BY THE COMMISSION'S POLICY AND PLANNING GUIDANCE, AS SOON AS THE AVAILABLE INFORMATION WARRANTS SUCH CHANGES, AND FOLLOWING FULL SCIENTIFIC REVIEWS AND PUBLIC COMMENT ON AVAILABLE INFORMATION.

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QUESTION 3

- (C) IN PARTICULAR, WHAT IS THE STATUS OF BALTIMORE GAS ELECTRIC COMPANY'S APPLICATION TO REDUCE THE RADIUS OF THE EMERGENCY PLANNING ZONE FOR ITS CALVERT CLIFFS PLANT FROM TEN TO TWO MILES? WHAT PART WILL SOURCE TERM RESEARCH PLAY IN THE COMMISSION'S DECISION ON THIS APPLICATION?

ANSWER.

THE NRC STAFF IS STUDYING THE BROAD RANGE OF TECHNICAL AND INSTITUTIONAL ISSUES ASSOCIATED WITH BALTIMORE GAS & ELECTRIC'S APPLICATION TO REDUCE ITS CALVERT CLIFF'S EMERGENCY PLANNING ZONE FROM 10 MILES TO 2 MILES. AT THIS TIME, HOWEVER, MUCH OF THE TECHNICAL BASIS FOR THE EPZ REDUCTION, SPECIFICALLY THE REFINEMENTS IN THE QUANTITY AND TYPE OF RADIOACTIVE MATERIAL RELEASED DURING SEVERE ACCIDENTS, IS STILL UNDER EVALUATION BY THE NRC AND INDUSTRY. RESOLUTION OF THESE FACTORS IS CONSIDERED NECESSARY BY THE NRC BEFORE FINAL DETERMINATION OF THIS ISSUE.

QUESTION 4: TO WHAT EXTENT DOES THE COMMISSION NOW EMPLOY PRA IN REGULATORY DECISION MAKING? WHAT ARE THE LIMITATIONS OF PRAs? WHAT ARE THE DOMINANT UNCERTAINTIES WHICH LIMIT THE APPLICATION OF PRAs?

ANSWER:

PROBABILISTIC RISK ASSESSMENTS (PRA) PROVIDE A UNIFORM METHODOLOGY WHICH INTEGRATES RELEVANT INFORMATION ABOUT PLANT DESIGN, OPERATING PRACTICES, OPERATING HISTORY, COMPONENT RELIABILITY, HUMAN RELIABILITY, AND PHYSICAL PROGRESSION OF CORE-DAMAGE ACCIDENTS AND POTENTIAL ENVIRONMENTAL AND HEALTH EFFECTS IN A SYSTEMATIC MANNER. ANTICIPATED PLANT BEHAVIOR INFORMATION EXTRACTED FROM PRAs PROVIDES VALUABLE QUANTITATIVE AND QUALITATIVE INSIGHTS INTO ASPECTS OF NUCLEAR POWER PLANT DESIGN AND OPERATIONS THAT ARE MOST SIGNIFICANT TO RISK. IT IS RECOGNIZED THAT THE PRESENT STATE-OF-THE-ART OF PRA METHODOLOGY AND RELIABILITY DATA DOES NOT ALLOW PRA USAGE AS THE PRIMARY BASIS FOR DECISIONMAKING. PROBABILISTIC ANALYSES ARE EVALUATED, AND A JUDGMENT IS MADE REGARDING THE VALIDITY OF ASSUMPTIONS, BOUNDARY CONDITIONS, AND THE OVERALL RESULTS AND A DECISION IS MADE REGARDING USE IN DETERMINISTIC REGULATORY DECISIONS.

QUESTION 4. (CONT'D)

RECENTLY, PRA HAS FOUND INCREASINGLY BROADER USE WITHIN THE REGULATORY ARENA. THIS USAGE HAS SPANNED A BROAD SPECTRUM OF APPLICATIONS INCLUDING ALLOCATION OF RESOURCES, SETTING OF REGULATORY PRIORITIES, RESOLVING SAFETY ISSUES AND IDENTIFYING OUTLIER PLANT FEATURES. CURRENT TRENDS SUCH AS SAFETY GOAL EVALUATIONS AND SEVERE ACCIDENT POLICY CONSIDERATIONS FORESHADOW THE POTENTIAL FOR AN EVEN GREATER USE OF PRA, ITS MODELS AND ITS INSIGHTS WITHIN THE REGULATORY PROCESS.

LIMITATIONS ON THE USE OF PRA ARISE FROM THOSE LIMITATIONS INHERENT IN PRA METHODOLOGY. METHODOLOGICAL LIMITATIONS ARE DISCUSSED IN DETAIL IN "PRA STATUS REPORT AND GUIDANCE FOR REGULATORY APPLICATION." (NUREG 1050 FEBRUARY 1984). AMONG THESE LIMITATIONS ARE GAPS AND INADEQUACIES IN THE DATA BASE, INADEQUACIES IN THE COVERAGE AND MODELING OF CORE-DAMAGE PHENOMENOLOGY, EXTERNAL EVENTS (E.G., SEISMIC, FLOODING), FAILURE DEPENDENCIES (E.G., SYSTEM INTERACTIONS), HUMAN PERFORMANCES, EQUIPMENT BEHAVIOR UNDER ACCIDENT ENVIRONMENT, AND HEAVY RELIANCE ON JUDGMENT AND ANALYST SKILLS.

UNCERTAINTIES IN THE SYSTEMS ANALYSIS SEGMENT OF PRA, ARE DOMINATED BY UNCERTAINTIES IN THE AREAS OF HUMAN RELIABILITY ANALYSIS, COMMON CAUSE FAILURES, AND EXTERNAL EVENTS. IN HUMAN

QUESTION 4. (CONT'D)

RELIABILITY ANALYSIS, DATA ARE HEAVILY DEPENDENT ON EXPERT OPINION. MODELING OF ERROR OF COGNITION, RECOVERY ACTIONS, DEPENDENCIES IN PROCEDURAL FAILURES, AND MAN-MACHINE INTERACTIONS ARE NOT FULLY DEVELOPED. MODELING AND COMPLETENESS IN THE TREATMENT OF COMMON CAUSE FAILURE AND SYSTEMS INTERACTIONS HAVE SIGNIFICANT IMPACT ON UNCERTAINTIES. TREATMENT OF EXTERNAL EVENTS HAS NOT FULLY MATURED YET. UNCERTAINTIES STILL EXIST IN THE HAZARD AND RESPONSE ANALYSES.

THE PRA PROCEDURES GUIDE (NUREG/CR-2300, JANUARY 1983) INCLUDES A TENTATIVE LISTING AND RANKING OF THE RELATIVE CONTRIBUTION TO TOTAL UNCERTAINTIES OF THE MAJOR PARAMETERS AND MODELS OF THE OFFSITE CONSEQUENCE ANALYSIS. HOWEVER, MANY OF THE PROBABILISTIC ANALYSES PERFORMED TO DATE HAVE PROVIDED IMPORTANT INSIGHTS INTO POTENTIAL PLANT VULNERABILITIES THAT WERE NOT OTHERWISE CONSIDERED IN THE TRADITIONAL DETERMINISTIC EVALUATIONS OF THE NUCLEAR POWER PLANTS.

A CONSIDERABLE EFFORT IS UNDERWAY AT THE NRC TO ADDRESS THESE PRA LIMITATIONS AND HENCE IMPROVE THE CONFIDENCE IN PRA ANALYSES AND RESULTS.

TO PROVIDE A MORE COMPLETE PERSPECTIVE ON THESE QUESTIONS, IT IS WORTH MENTIONING HERE ALSO, THAT THE FACTORS NOTED ABOVE WHICH

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QUESTION 4. (CONT'D)

GIVE RISE TO UNCERTAINTIES IN PRAs AND PRA RESULTS, PRODUCE UNCERTAINTIES IN DETERMINISTIC ANALYSES AND DECISIONMAKING AS WELL. AN ADVANTAGE OF PRA METHODOLOGY IS THAT, BY ITS VERY NATURE, IT TENDS TO FORCE US TO IDENTIFY SOURCES OF UNCERTAINTY MORE EXPLICITLY AND PROVIDES A VERY USEFUL FRAMEWORK IN WHICH TO CONSIDER THE VARIOUS SOURCES OF UNCERTAINTY IN A MORE FULLY INTEGRATED MANNER, AND IN WHICH TO TRY TO QUANTIFY UNCERTAINTICS TO A GREATER DEGREE. AS A GENERAL CHARACTERIZATION, IN THE DETERMINISTIC CONTEXT, ONE TRIES TO COMPENSATE FOR UNCERTAINTY IN A MORE QUALITATIVE WAY BY RESORTING TO VERY CONSERVATIVE ASSUMPTIONS OR MARGINS. BUT IT MUST BE SAID THAT SUCH AN APPROACH ALSO HAS WEAKNESSES. WE HAVE SOMETIMES BEEN TOO SINGLEMINDED IN APPLYING THAT APPROACH IN WAYS THAT MAY NOT BE EFFECTIVE TO EITHER SAFETY OR COST. AN IMPORTANT CONCLUSION OF BOTH THE KEMENY COMMISSION AND THE ROGOVIN INQUIRY FOLLOWING THE TMI ACCIDENT WAS THAT PRA METHODS SHOULD BE USED INCREASINGLY IN THE REGULATORY SAFETY DECISION PROCESS. A SIMILAR CONCLUSION WAS DRAWN BY THE LEWIS COMMITTEE EARLIER, PRIOR TO THE TMI ACCIDENT.

WE ARE TRYING TO DO THIS AT NRC (AND HAVE BEEN MOVING STEADILY IN THAT DIRECTION FOR SEVERAL YEARS NOW), BUT IN A WAY THAT PROVIDES A JUDICIOUS BALANCE OF DETERMINISTIC AND PROBABILISTIC ELEMENTS IN THE COMPLEX SAFETY DECISION TASKS THAT ARISE IN THE REGULATORY PROCESS. AS A FINAL POINT, WE SHOULD NOTE THAT MANY FOREIGN COUNTRIES HAVE ALSO INCREASINGLY INTRODUCED PRA INTO THEIR NUCLEAR DESIGN AND SAFETY DECISION PROCESS FOR MANY OF THE SAME REASONS THE U.S. HAS.

Question 4

Commissioner Assestine adds the following:

The fundamental issue being raised in the proposals for safety goals that are before the Commission involves the extent to which the safety goals should incorporate or address: core-melt frequency, health effects, and cost-benefit analyses. Each of these is measured through the "bottom-line" results of probabilistic risk assessments and they are being proposed as "the three major decision factors" in the safety goals. The Commission's backfit rule also mandates use of such risk values and cost-benefit analyses in deciding whether to improve the level of safety at operating nuclear plants. On the other hand, such use of these factors is an apparent contradiction with the Agency's comments to the U.S. General Accounting Office: "... that NRC should not use end-result numerical risk estimates as the sole or primary basis for regulatory decisions." (See attached letter from William J. Dircks to J. Dexter Peach dated April 24, 1985.) In my view, the Commission has yet to come to grips with the proper and improper use of PRA in regulatory decision making and the Commission has yet to articulate how uncertainties are to be factored into regulatory decision making.

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APPENDIX IV

APPENDIX IV



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 24 1985

Mr. J. Dexter Peach
Director, Resources, Community and Economic
Development Division
U.S. General Accounting Office
441 G. Street, N.W.
Washington, DC 20548

Dear Mr. Peach:

We appreciate the opportunity to comment on the draft GAO report "Probabilistic Risk Assessment: An Emerging Aid to Nuclear Power Plant Safety Regulations." We found the report to be an excellent document describing the nature of probabilistic risk assessment (PRA) and its use in dealing with complex nuclear power plant safety issues under conditions of high uncertainty. The report, in general, is accurate and provides a clear perspective on the subject. In particular, we are pleased to note its major conclusion which states, "GAO believes that in view of the evolving nature of PRA, the time and expense required to prepare and review major PRA studies, and the staff's experience and training, NRC is making timely and reasonable use of PRA in the nuclear regulatory process." We are also in agreement, "----that NRC should not use end-result numerical risk estimates as the sole or primary basis for regulatory decisions."

Enclosed are some suggestions for factual modifications or clarifications that we believe, would strengthen the report. In addition, some information has been provided to update the status of programs which have changed and PRAs which have been completed since the GAO inquiry was performed.

If you have any questions, please contact Dr. Gary Burdick (443-7960).

Sincerely,

A handwritten signature in dark ink, appearing to read "William J. Dircks".

William J. Dircks
Executive Director for Operations

Enclosure:
Comments on GAO Report

QUESTION 5. ENVIRONMENTAL QUALIFICATION

PLEASE IDENTIFY ALL PLANTS THAT DO NOT NOW MEET THE COMMISSION'S ENVIRONMENTAL QUALIFICATION REQUIREMENTS AND, FOR EACH SUCH PLANT, THE BASIS FOR EXTENDING THE DEADLINE FOR MEETING THESE REQUIREMENTS.

ANSWER.

THE COMMISSION HAS GRANTED EXTENSION REQUESTS FOR MEETING THE ENVIRONMENTAL QUALIFICATION REQUIREMENTS FOR THE FOLLOWING PLANTS:

<u>PLANT</u>	<u>EXTENSION</u>
D. C. COCK 2	2/28/86
FT. ST. VRAIN	3/31/86
MILLSTONE 1	SCHEDULED FOR INTEGRATED SAFETY ASSESSMENT PROGRAM
NINE MILE PT. 1	SPRING 1986
PALO VERDE 1/2	3/30/86
POINT BEACH 1	5/86 (REFUELING)

OTHER PLANTS WHICH WERE GRANTED EXTENSIONS HAVE SUBSEQUENTLY COMPLETED THEIR EQUIPMENT QUALIFICATION PROGRAMS OR ARE SHUTDOWN. IN EACH CASE THE COMMISSION ISSUED AN ORDER EXTENDING THE EQUIPMENT QUALIFICATION DEADLINE IN QUALIFICATION DEADLINE IN ACCORDANCE

QUESTION 5. (CONTINUED)

WITH THE PROVISIONS OF THE CODE OF FEDERAL REGULATIONS 10 CFR 50.49(G). THE COMMISSION DECISIONS WERE BASED ON A DETERMINATION THAT THE SAFETY CONCERNS WITH EQUIPMENT QUALIFICATION WERE ADEQUATELY ADDRESSED BY THE LICENSEE'S JUSTIFICATIONS FOR CONTINUED OPERATION WHICH WERE REVIEWED AND APPROVED BY THE NRC STAFF. IN GENERAL, THE JUSTIFICATIONS FOR CONTINUED OPERATION WERE BASED ON THE AVAILABILITY OF BACKUP EQUIPMENT TO ACCOMPLISH THE FUNCTION OF THE UNQUALIFIED EQUIPMENT. IN ADDITION, THE COMMISSION REQUIRED EACH LICENSEE GRANTED AN EXTENSION TO DEMONSTRATE THAT THEY HAD TAKEN DILIGENT MEASURES TO ATTEMPT TO BE IN COMPLIANCE WITH 10 CFR 50.49 BEFORE NOVEMBER 30, 1985, AND THAT FAILURE TO DO SO RESULTED FROM CIRCUMSTANCES ENTIRELY BEYOND LICENSEES' CONTROL. THE DETAILS OF EACH EXTENSION ARE AVAILABLE IN THE COMMISSION ORDERS REFERRED TO ABOVE.

WITH REGARD TO THOSE LICENSEES WHO HAVE NOT REQUESTED EXEMPTIONS FROM 10 CFR 50.49, THE NRC STAFF HAS COMMENCED AN INSPECTION PROGRAM TO CONFIRM THAT THOSE LICENSEES HAVE IMPLEMENTED A PROGRAM THAT MEETS THE REQUIREMENT OF THE RULE. THE PRESENT SCHEDULE IS TO COMPLETE THOSE INSPECTIONS WITHIN ABOUT TWO YEARS.

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QUESTION 6

PLEASE COMMENT ON THE COMMISSION'S EXPERIENCE WITH THE NEW BACKFIT RULE. WHY WASN'T THE RULE APPLIED TO THE PROPOSED REVISIONS TO THE COMMISSION'S RADIATION PROTECTION STANDARDS? PLEASE IDENTIFY ALL ACTIONS REQUIRED OF LICENSEES SINCE THE BACKFIT RULE TOOK EFFECT TO WHICH THE RULE HAS BEEN APPLIED.

ANSWER

THE BACKFIT RULE IS BEING APPLIED TO THE PROPOSED REVISIONS TO THE COMMISSION'S RADIATION PROTECTION STANDARDS. THE STAFF IS PREPARING A BACKFIT ANALYSIS FOR THE PROPOSED PART 20 REVISIONS WHICH WILL BE TRANSMITTED TO THE COMMISSION SHORTLY. THE COMMISSION WILL REVIEW BOTH THE PROPOSED RULE ITSELF AND THE BACKFIT ANALYSIS.

THE STAFF HAS ALSO PREPARED A BACKFIT ANALYSIS FOR THE PROPOSED RULE ON STATION BLACKOUT. THE ANALYSIS WILL BE PUBLISHED FOR COMMENT IN THE FEDERAL REGISTER ALONG WITH THE PROPOSED RULE. THE COMMISSION SPECIFICALLY REQUESTED COMMENT ON WHETHER THE PROPOSED RULE MEETS THE "SUBSTANTIAL INCREASE" STANDARD.

SINCE THE BACKFIT RULE TOOK EFFECT ON OCTOBER 21, 1985, NO PLANT-SPECIFIC OR GENERIC BACKFITS HAVE BEEN IMPOSED ON LICENSEES.

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Question 6

Commissioner Asselstine adds the following:

The Commission claims that, without the backfit rule, there was no way to discipline the NRC staff's decisions to develop new or modified positions on safety matters. However, rather than merely requiring the documentation of the rationale for a new safety requirement, the backfit rule erects substantial barriers to improving safety, skews the cost-benefit analyses against safety, injects indefensible analyses into the decision-making process, and ignores uncertainties in reactor risks.

Further, it appears that the Commission does not intend to discipline all of the staff's processes for conducting safety analyses. The Commission does not intend to apply the "disciplining principles" of the backfit rule in developing rules or staff positions that relax existing safety standards. Thus, the Commission places the burden of proof on the proponent of improved safety but has developed no "disciplining principles" for the proponent of relaxed safety standards. For example, the Commission has directed the staff not to apply the "disciplining principles" of the backfit rule if a licensee requests a relaxation of its safety standards. Such a double standard is but one example of how poorly thought through and potentially dangerous the backfit rule is.

QUESTION 7. WHAT STEPS WILL BE TAKEN TO ENSURE THE INDEPENDENCE OF INTER-OFFICE INCIDENT INVESTIGATION TEAMS? WHAT WAS THE BASIS FOR THE COMMISSION'S DECISION NOT TO ESTABLISH A COMMISSION-LEVEL OFFICE OR TO RECOMMEND CREATION OF AN INDEPENDENT AGENCY TO INVESTIGATE NUCLEAR PLANT ACCIDENTS?

ANSWER

THE COMMISSION HAS PLACED A HIGH PRIORITY ON ASSURING THAT INCIDENT INVESTIGATION TEAMS (IITs) PERSONNEL ARE SUFFICIENT IN NUMBER AND EXPERTISE TO CONDUCT A THOROUGH AND SYSTEMATIC INVESTIGATION OF SIGNIFICANT OPERATING EVENTS, AND SUFFICIENTLY INDEPENDENT TO BE OBJECTIVE AND CANDID. THUS, WHILE A REVIEW OF THE NRC INVESTIGATION OF SIGNIFICANT EVENTS BY BROOKHAVEN NATIONAL LABORATORY (NUREG/CR-4152 DATED FEBRUARY 1985) CONCLUDED THAT "THE REVIEW OF THESE EVENTS HAS NOT IDENTIFIED ANY INSTANCE OF INVESTIGATORY BIAS," THE REVISED INCIDENT INVESTIGATION PROGRAM SHOULD ENSURE THAT NRC INVESTIGATIONS OF SIGNIFICANT EVENTS ARE CONDUCTED IN A THOROUGH, STRUCTURED AND COORDINATED MANNER THAT EMPHASIZES FACT-FINDING AND DETERMINATION OF PROBABLE CAUSE.

ATTACHMENT

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QUESTION 7. (CONT'D)

THE LEADER AND MEMBERS OF TEAMS WILL BE SELECTED ON THE BASIS OF TECHNICAL COMPETENCE AND POTENTIAL CONTRIBUTIONS TO THE INVESTIGATION. TO THE DEGREE POSSIBLE, EACH TEAM WILL BE LARGELY STAFFED WITH INDIVIDUALS WITH NO SIGNIFICANT INVOLVEMENT WITH LICENSING AND INSPECTION ACTIVITIES ASSOCIATED WITH THE PARTICULAR EVENT OR SPECIFIC PLANT. SPECIFIC ACTIONS TAKEN INCLUDE THE FOLLOWING:

- THE TEAM LEADER AND MEMBERS ARE APPOINTED DIRECTLY BY THE EDO (WITH STAFF ASSISTANCE FROM AEOD). THE TEAM LEADER REPORTS DIRECTLY TO THE EDO.
- THE DEVELOPMENT OF PROGRAM GUIDANCE AND PROCEDURES, MAINTENANCE OF PERSONNEL ROSTERS AND DEVELOPMENT OF AN APPROPRIATE TRAINING PROGRAM IS A RESPONSIBILITY OF AEOD (AN OFFICE THAT HAS NO LICENSING, INSPECTION OR ENFORCEMENT RESPONSIBILITIES).
- THE TEAM LEADER AND TEAM MEMBERS WILL BE SELECTED FROM A ROSTER ON THE BASIS OF THEIR TECHNICAL EXPERTISE AND THEIR INDEPENDENCE FROM PRIOR INVOLVEMENT WITH LICENSING AND INSPECTION ACTIVITIES AT THE PLANT WHERE THE EVENT OCCURRED.
- THE TEAM'S REPORT IS DEVELOPED ENTIRELY BY THE TEAM, AND THE TEAM IS SOLELY RESPONSIBLE FOR THE REPORT CONTENTS AND

QUESTION 7. (CCNT'D)

FINDINGS. PRIOR TO FINAL PUBLICATION, THE ONLY OUTSIDE REVIEW IS BY THE DIRECTOR AND DEPUTY DIRECTOR OF AEOD, AND THEIR COMMENTS ARE ADVISORY IN NATURE TO THE TEAM LEADER.

COMMISSIONER ASSELSTINE WOULD HAVE PREFERRED THE ESTABLISHMENT OF A COMMISSION-LEVEL OFFICE OF NUCLEAR SAFETY WITH EXECUTIVE AND SUPERVISORY AUTHORITY OVER ACCIDENT INVESTIGATION. COMMISSIONER BERNTHAL WOULD HAVE PREFERRED THAT THE COMMISSION REQUEST A COMPREHENSIVE STUDY OF THE CONCEPT OF A SMALL ONS INVESTIGATIVE TEAM THAT WOULD REPORT DIRECTLY TO THE COMMISSION AND THAT THE COMMISSION USE THAT STUDY AS THE BASIS FOR ESTABLISHING SUCH A TEAM.

IN CONNECTION WITH HIS APPROVAL OF THE COMMISSION'S DECISION NOT TO ESTABLISH A COMMISSION-LEVEL OFFICE OR TO RECOMMEND CREATION OF AN INDEPENDENT AGENCY TO INVESTIGATE NUCLEAR PLANT ACCIDENTS, CHAIRMAN PALLADINO STATED THAT THE COMMISSION RESERVES THE RIGHT, IN A GIVEN CASE, TO FORM A SPECIAL BOARD WHEN CIRCUMSTANCES SO WARRANT. COMMISSIONER ROBERTS NOTED THAT HE APPROVED WITH THE UNDERSTANDING THAT HIS VOTE IN NO WAY REOPENED THE INCIDENT INVESTIGATION COORDINATING-GROUP ISSUE DISCUSSED IN THE CHAIRMAN'S 1987 BUDGET MEMO OF JULY 22, 1985. HE ENVISIONED THE GROUP(S) AS BEING STRUCTURED AND WORKING SIMILAR TO THE NRC TEAM ON THE DAVIS-BESSE EVENT.

FINALLY, THE COMMISSION HAS ESTABLISHED AN AD HOC GROUP TO REVIEW ISSUES ARISING OUT OF THE JUNE 9, 1985 INCIDENT AT DAVIS-BESSE, TO IDENTIFY ADDITIONAL LESSONS THAT MIGHT BE LEARNED FROM THE INCIDENT AND TO RECOMMEND HOW NRC'S INTERNAL PROCEDURES AND ITS OVERSIGHT OF REACTOR LICENSEES MAY BE IMPROVED (SEE ATTACHED STAFF REQUIREMENTS MEMORANDUM). IT SHOULD BE NOTED THAT TO DATE IIT'S HAVE INVESTIGATED EVENTS AT THE DAVIS-BESSE, SAN ONOFRE, AND RANCHO SECO NUCLEAR PLANTS. ALL BUT THE RANCHO SECO IIT REPORT HAVE BEEN PRESENTED TO THE COMMISSION. THESE REPORTS HAVE BEEN THE MOST THOROUGH AND OBJECTIVE FACT FINDING EFFORTS SINCE TMI.

Commissioner Bernthal has the following comments:

On November 14, 1985 the Chairman of the ACRS wrote the Commission expressing his concern that the Commission had "reject[ed] the Brookhaven recommendation for the formation of an independent office" to investigate serious incidents at nuclear powerplants. Dr. Ward further noted that the Commission also rejected the recommendation of the ACRS in this matter, and expressed his concern over "coherence" and continuity in incident investigations, should the NRC "revert to its balkanized format" in handling investigations of incidents such as that at Davis-Besse.

Last June, I had asked the Commission to consider the concept of a small, independent, Commission-level office with "matrix-management" authority to investigate Davis-Besse type events. In the wake of the Chairman's September proposal to establish an ad-hoc group to review Davis-Besse, I again expressed my concern that "the elements of such a team, reporting to the Commission, should be made a rather more permanent feature for Commission evaluation of the causes of significant powerplant incidents".

I continue to believe the Commission's judgment and handling of this matter has been mistaken. The Commission's belated decision last fall to convene an ad-hoc group to carry out largely the same functions as could appropriately be assigned to a permanent, Commission-level panel only compounds the mistake with confusion. Moreover, with all due respect to OIA's considerable capability, it remains highly questionable whether OIA has the expertise and resources to carry out an independent, authoritative assessment of our own Staff's performance in incidents such as Davis-Besse.

If there was any doubt as to the need for an element of independence and continuity in such assessments, events since Davis-Besse have confirmed my belief that an independent, Commission-level Office of Nuclear Safety will save the Commission time and grief in the long run. Will the Commission now also form ad-hoc groups to explore the causes and remedies for the recent events at Rancho-Seco and at the Sequoyah facility in Gore, Oklahoma?

It is unrealistic to expect that there will not be at least a few such significant events per year, on average, and it is becoming increasingly apparent that the Commission needs some entity to deal with events where the procedures of the NRC itself might be in question. Refusing even now to do so, after having been clearly and repeatedly counseled by the Brookhaven study, by ACRS, and by events, simply invites Congress to consider what I do not believe would be necessary or wise -- yet another independent outside agency, analogous to the NTSB, to investigate nuclear events of special safety significance.



OFFICE OF THE
SECRETARY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

January 24, 1986

MEMORANDUM FOR: B. Paul Cotter, Jr.
Chief Administrative Judge, ASLBP

FROM: Victor Stello, Jr. (Acting)
Executive Director for Operations

SUBJECT: Samuel J. Chilk, Secretary

ESTABLISHMENT OF AN AD HOC REVIEW GROUP
ON THE DAVIS-BESSE INCIDENT
(SECY-85-365)

The Commission has approved the establishment of an independent Ad Hoc Review Group to review issues arising out of the June 9, 1985 incident at Davis-Besse, to identify additional lessons that might be learned from the incident and to recommend how NRC's internal procedures and its oversight of reactor licensees may be improved. A copy of the charter for the Group is attached.

The Commission has approved the following membership of the Group:

- a. Judge James Gleason, (NRC), Chairman
- b. Judge Peter Morris (NRC)
- c. Dennis K. Rathbun (NRC)
- d. Joseph N. Levine (NASA)
- e. H. Guice Tinsley (FAA)

All members have been contacted. Judge Gleason is prepared to initiate the Group's activity immediately.

The Commission has determined that responsibility for administrative support of the Group is assigned to the ASLBP staff. An administrative officer and lead secretary should be appointed from the Panel's staff.

(ASLBP) (SECY SUSPENSE: 1/23/86)

The Commission has also determined that additional support funds and personnel should be detailed from the EDO staff as required by the Group.

(EDO) (SECY SUSPENSE: as required)

Attachment:
As Stated

Copies:
Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech
Judge Gleason
OGC
OPE
OPA
CCA
ADM

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CHARTERAD HOC INDEPENDENT REVIEW GROUP ON THE DAVIS-BESSE INCIDENT

The Nuclear Regulatory Commission has decided to establish an independent ad hoc group (the review group) to review issues arising out of the June 9, 1985, incident at the Davis-Besse nuclear power plant. The purpose of this review group is to identify additional lessons that might be learned from the incident, and from these to make recommendations as to how NRC's internal procedures and its oversight of reactor licensees may be improved. The review group shall have the authority necessary to perform the tasks and accomplish the purposes of this charter. By this and other reviews and the implementation of the recommendations arising from them, the Commission intends to reduce the possibility of future similar occurrences.

To this end the review group will undertake the following studies:

- a. Examine the process of analysis, review, and interaction between the licensee and the NRC that took place preceding the event concerning the reliability of, and the need and schedule for modification of, the Davis-Besse auxiliary feedwater system and associated systems; and make recommendations as to how the regulatory process may be improved in light of the findings resulting from this examination.
- b. Examine pre-event probabilistic assessments of the reliability of the Davis-Besse plant safety systems, the NRC review of these assessments,

and the use to which these analyses were put in the regulatory decisionmaking process; and make recommendations as to how the use of this sort of reliability analysis in the regulatory process might be improved.

- c. Examine the licensee's management, operation and maintenance programs to the extent that they may have contributed to the equipment failures that caused or exacerbated the incident; examine the NRC's requirements for, and oversight of, such licensee programs; and make recommendations as to how the NRC may improve its regulatory processes and its oversight of reactor licensees in these areas.
- d. Examine the mandate, capabilities of members, operation, and results of the Davis-Besse incident investigation team, and the use to which its report was put by the regulatory staff; and make recommendations as to how the incident investigation process may be improved.

This review is not a vehicle for determining whether Davis-Besse can be operated in the future without undue risk to public health and safety. The Commission will make that decision through its normal regulatory procedures which are in no way dependent upon the work of this review group.

Therefore, the timing of that decision is in no way related to the work of this review group. However, if the review group identifies information bearing on a significant safety deficiency at Davis-Besse or other licensed facilities, it should bring this to the attention of the EDO.

Similarly, this review should not assess responsibility for the incident on the part of individual licensee or NRC staff members. That assessment is the responsibility of our Offices of Inspection and Enforcement, Investigations, and Inspector and Auditor. However, the Commission expects that, if the review group receives any evidence relevant to the issues of culpable responsibility of individuals, such evidence will be provided promptly to the Commission.

The group will determine for itself what methods and procedures other than adjudicatory it will use to gather data. Insofar as the review group believes previous reviews and analyses to be adequate, they should not duplicate the existing work. The EDO is instructed to provide additional technical data regarding the incident as it becomes available. Given the potential complexity of task (b) above, the Commission will, if the group wishes, provide contractor support funds to assist the review group in its technical analysis of the various probabilistic analyses and the staff reviews thereof. The General Counsel and Secretary of the Commission will be available for consultation in procedural matters. Facilities and administrative and clerical support will be provided through the resources of the ASLB Panel, with additional support funds and personnel provided through detailing from the EDO staff. The review group shall determine the non-adjudicatory methods, procedures, and schedule it will follow to accomplish its responsibilities, and notify the Commission thereof within two weeks of the issuance of this charter. Within 90 days the review group is to report in writing its findings and recommendations, and to brief the Commission at a public meeting as soon thereafter as practicable.

QUESTION 8. INSTITUTE OF NUCLEAR POWER OPERATIONS

- (A) TO WHAT EXTENT IS THE COMMISSION DEPENDING ON THE SERVICES OF THE INSTITUTE OF NUCLEAR POWER OPERATIONS TO RESOLVE GENERIC SAFETY ISSUES? WHAT CRITERIA DOES THE COMMISSION EMPLOY IN DECIDING WHETHER TO RELY ON INPO RATHER THAN THE COMMISSION'S OFFICE OF INSPECTION AND ENFORCEMENT?

ANSWER.

THE COMMISSION DOES NOT DEPEND UPON INPO TO RESOLVE GENERIC SAFETY ISSUES. HOWEVER, IT IS COMMISSION POLICY THAT NRC'S REGULATORY ACTIVITIES RECOGNIZE AND ENCOURAGE INDUSTRY INITIATIVES TO IMPROVE NUCLEAR SAFETY.

IN EARLY 1984, INDUSTRY FORMED THE NUCLEAR UTILITY MANAGEMENT AND RESOURCES COMMITTEE (NUMARC), AN ORGANIZATION OF SENIOR UTILITY OFFICIALS WHOSE GOAL IS TO REVIEW MANAGEMENT AND OTHER ISSUES IN NUCLEAR PLANT OPERATIONS AND DEVELOP INDUSTRY WIDE RESOLUTIONS. SINCE THAT TIME, NUMARC HAS BECOME A MAJOR VEHICLE FOR ARTICULATING INDUSTRY SELF-IMPROVEMENT ACTIVITIES TO THE COMMISSION.

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QUESTION 8(A). (CONTINUED)

THE RESOURCES OF INPO ARE USED BY THE INDUSTRY IN FURTHER DEVELOPING NUMARC INITIATIVES AND IN EVALUATING THE PROGRESS OF INDIVIDUAL UTILITIES IN IMPLEMENTING INDUSTRY SOLUTIONS. WHERE NUMARC INITIATIVES ADDRESS GENERIC SAFETY ISSUES FOR WHICH THE COMMISSION IS CONSIDERING THE NEED FOR ADDITIONAL REGULATORY REQUIREMENTS, OUR PROGRAMS ARE STRUCTURED TO RECOGNIZE INDUSTRY'S INITIATIVE WHILE MAINTAINING PROVISION FOR NRC EVALUATION OF THE COMPLETENESS AND EFFECTIVENESS OF THE INDUSTRY PROGRAM. FOR EXAMPLE, THE COMMISSION RECENTLY DEFERRED NEW RULEMAKING ON THE TRAINING OF NUCLEAR POWER PLANT PERSONNEL IN RECOGNITION OF THE INDUSTRY INITIATIVE UNDERWAY TO UPGRADE TRAINING PROGRAMS. THE COMMISSION ENDORSED THE INPO MANAGED TRAINING ACCREDITATION PROGRAM IN THAT IT ENCOMPASSED THE ELEMENTS OF PERFORMANCE-BASED TRAINING WHICH HAD BEEN ENVISIONED IN THE NRC STAFFS' PLANS FOR RULEMAKING. IN TAKING THIS ACTION, THE COMMISSION EXPECTS INPO, TOGETHER WITH EACH NUCLEAR UTILITY, TO PLAY A MAJOR ROLE IN SUCCESSFULLY RESOLVING THIS ISSUE. HOWEVER, WHILE INPO HAS TAKEN THE INITIATIVE IN THIS AREA, PROGRAMS HAVE BEEN ESTABLISHED WITHIN THE OFFICE OF INSPECTION AND

QUESTION 8(A). (CONTINUED)

ENFORCEMENT (IE) AND THE OFFICE OF NUCLEAR REACTOR REGULATION (NRR) TO GATHER INFORMATION ON THE STATUS OF THE INPO PROGRAM AND TO INDEPENDENTLY EVALUATE ITS EFFECTIVENESS THROUGH PERIODIC INSPECTIONS AND AUDITS.

IN SUMMARY, THE COMMISSION DOES NOT RELY UPON INDUSTRY (NUMARC/ INPO) RATHER THAN ITS OWN STAFF TO RESOLVE SAFETY ISSUES. AS NOTED ABOVE, THE COMMISSION HAS IN INSTANCES SUCH AS THE INPO MANAGED ACCREDITATION PROGRAM RELIED UPON INDUSTRY'S PROGRAM FOR IMPLEMENTATION OF A RESOLUTION. HOWEVER, WE MONITOR AND AUDIT INDUSTRY ACTIVITIES AND ADJUST OUR REVIEW AND LIMITED INSPECTION RESOURCES WHEN WARRANTED. IN ADDITION, IN THOSE CASES WHERE INDUSTRY SELF-IMPROVEMENT INITIATIVES APPEAR TO ADEQUATELY ADDRESS NRC'S PERCEPTION OF AN IDENTIFIED GENERIC SAFETY ISSUE, THE COMMISSION GENERALLY DESIRES TO RECOGNIZE AND ENCOURAGE SUCH INITIATIVES BY REFRAINING FROM THE PROMULGATION OF ADDITIONAL FEDERAL REGULATIONS. THIS POLICY IS, OF COURSE, CONTINGENT UPON NRC'S ONGOING DETERMINATION THAT INDUSTRY IS, IN FACT, ADDRESSING AND SATISFACTORILY RESOLVING SAFETY ISSUES WITHOUT THE NEED FOR FURTHER REGULATIONS.

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QUESTION 8.

(B) WHAT IS THE COMMISSION'S POSITION WITH
RESPECT TO RECEIVING INPO REPORTS AND
PLACING THEM IN THE PUBLIC DOCUMENT ROOM?
WHAT IS THE RATIONALE FOR THIS POSITION?

ANSWER.

THE NRC AND INPO HAVE ENTERED INTO A MEMORANDUM OF AGREEMENT (MOA) IN ORDER TO HELP ENSURE THAT THE GOALS OF BOTH ORGANIZATIONS ARE ACHIEVED IN THE MOST EFFICIENT AND EFFECTIVE MANNER WITHOUT DIMINISHING OR INTERFERING WITH EITHER PARTIES' RESPONSIBILITIES OR AUTHORITIES. APPENDICES TO THE MOA ARE USED TO COORDINATE SELECTED NRC AND INPO ACTIVITIES. AS NEW AREAS OF MUTUAL INTEREST HAVE EMERGED, APPENDICES HAVE BEEN ADDED TO THE MOA. THUS, THE NRC'S POLICY ON THE RECEIPT, USE, AND PUBLIC RELEASE OF INPO DOCUMENTS AND PRODUCTS HAS DEVELOPED OVER THE COURSE OF SEVERAL YEARS. THE GENERAL POLICY REGARDING RECEIPT AND HANDLING OF INPO DOCUMENTS IS DESCRIBED BELOW.

INPO ASSIGNS ITS DOCUMENTS TO ONE OF THREE CLASSIFICATION CATEGORIES: GENERAL DISTRIBUTION, LIMITED DISTRIBUTION, OR RESTRICTED DISTRIBUTION. DOCUMENTS WITH A GENERAL DISTRIBUTION CLASSIFICATION ARE NONTECHNICAL AND ARE GENERALLY AVAILABLE TO

QUESTION 8(B). (CONTINUED)

THE PUBLIC. FOR EXAMPLE, INPO DOCUMENTS PROVIDED AT INPO BRIEFINGS OF THE COMMISSION ARE GENERAL DISTRIBUTION DOCUMENTS AND ARE PLACED IN THE PUBLIC DOCUMENT ROOM (PDR).

MOST TYPES OF INPO-GENERATED TECHNICAL, GENERIC DOCUMENTS (NOT PERTAINING TO A SPECIFIC UTILITY) ARE CLASSIFIED BY INPO AS LIMITED DISTRIBUTION. THESE DOCUMENTS ARE DEVELOPED FOR AND PROVIDED TO INPO MEMBERS AND PARTICIPANTS PRIMARILY FOR THEIR INTERNAL USE. COPIES OF THESE DOCUMENTS ARE USUALLY PROVIDED TO THE NRC; HOWEVER, INPO CONSIDERS THESE DOCUMENTS AS CONTAINING PROPRIETARY INFORMATION. THE NRC ACCORDS THESE DOCUMENTS PROPRIETARY TREATMENT AND DOES NOT NORMALLY PLACE SUCH DOCUMENTS IN THE PDR.

TECHNICAL DOCUMENTS THAT CONTAIN PLANT-SPECIFIC INFORMATION ARE CLASSIFIED BY INPO AS RESTRICTED DISTRIBUTION. THESE DOCUMENTS ARE NOT NORMALLY PROVIDED TO THE NRC BY INPO; HOWEVER, INPO MAKES THESE REPORTS AVAILABLE TO THE NRC FOR REVIEW AND READING AT THEIR OFFICES IN ATLANTA, GEORGIA. IN ADDITION, PLANT-SPECIFIC INPO REPORTS ARE AVAILABLE FOR NRC REVIEW AT LICENSEES' FACILITIES.

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QUESTION 8(B). (CONTINUED)

UNDER THE INPO/NRC MEMORANDUM OF AGREEMENT, TECHNICAL INFORMATION IS EXCHANGED BETWEEN THE TWO ORGANIZATIONS. INPO TECHNICAL INFORMATION AND DOCUMENTS ARE PROVIDED TO THE NRC FOR THE AGENCY'S INTERNAL PURPOSES ONLY. THEREFORE, INPO-GENERATED DOCUMENTS WITH LIMITED OR RESTRICTED DISTRIBUTION WILL NOT NORMALLY BE PLACED IN THE PDR UNLESS SUCH INFORMATION IS USED AS THE BASIS FOR A SPECIFIC REGULATORY DECISION AND IT IS DETERMINED BY THE NRC THAT IT IS IN THE PUBLIC INTEREST TO RELEASE THE INFORMATION. THE NRC INTERPRETS THE PHRASE "SPECIFIC REGULATORY DECISION" TO INCLUDE BOTH DECISIONS WHICH RESULT IN SPECIFIC REGULATORY ACTION BEING TAKEN SUCH AS THE ISSUANCE OF CONSTRUCTION PERMITS, OPERATING LICENSES, AMENDMENTS, BULLETINS, ORDERS, OR INFORMATION NOTICES; AND DECISIONS WHERE A DOCUMENTED ANALYSIS CONCLUDES THAT NO ACTION IS NECESSARY (E.G., A GENERIC STUDY INDICATES THAT THERE IS NO SAFETY CONCERN REQUIRING REGULATORY ACTION). IN SUCH CASES, THE INFORMATION WILL BE RELEASED IF THE INFORMATION FORMS A BASIS FOR THE REGULATORY DECISION IN A DOCUMENTED NRC STUDY ADDRESSING THE SAFETY CONCERN AND THE APPROPRIATE OFFICE DIRECTOR DETERMINES THAT THE PUBLIC'S RIGHT TO KNOW THAT BASIS OUTWEIGHS THE NEED FOR PROTECTION OF THE INFORMATION.

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QUESTION 8(B). (CONTINUED)

UNLESS A COMPELLING SAFETY REASON DICTATES OTHERWISE, INPO IS NOTIFIED IN ADVANCE OF THE NRC DECISION TO MAKE THE INFORMATION PUBLIC, THUS ALLOWING INPO AN OPPORTUNITY TO EXERCISE THEIR LEGAL RIGHTS REGARDING SUCH DISCLOSURE.

WHEN DOCUMENTS PROVIDED TO THE NRC BECOME THE SUBJECT OF A FREEDOM OF INFORMATION ACT (FOIA) REQUEST, THEY ARE PROCESSED IN ACCORDANCE WITH 5 U.S.C. §552 AND PART 9 OF OUR REGULATIONS. THE DOCUMENTS OR PORTIONS OF DOCUMENTS THAT CAN BE RELEASED UNDER THE FOIA REQUEST ARE PLACED IN THE PDR.

THE AGENCY IS CURRENTLY INVOLVED IN LITIGATION CONCERNING PORTIONS OF CERTAIN INPO DOCUMENTS FOR WHICH A CLAIM OF PROPRIETARY DATA WAS MADE. SEE CRITICAL MASS ENERGY PROJECT V. NRC, CIV. ACT. NO. 84-1943 (D.D.C.). THE AGENCY'S POSITION IN COURT IS THAT THESE DOCUMENTS CONTAIN CONFIDENTIAL, COMMERCIAL INFORMATION, THE RELEASE OF WHICH WOULD IMPAIR THE GOVERNMENT'S ABILITY TO HAVE ACCESS TO SIMILAR MATERIAL IN THE FUTURE.

QUESTION 9. TVA

COMMISSIONER ASSELSTINE HAS STATED THAT THE REGULATORY BREAKDOWN AT TVA IS "THE SINGLE GREATEST FAILURE OF THE NRC REGULATORY PROGRAM SINCE THE THREE MILE ISLAND ACCIDENT." WHAT IS EACH COMMISSIONER'S VIEW AS TO THE SEVERITY OF THE SITUATIONS, THE NEED FOR CHANGES IN NRC PRACTICES AND PROCEDURES TO ASSURE THAT SITUATIONS OF THIS TYPE DO NOT RECUR?

ANSWER

UNQUESTIONABLY, THE PERVASIVE AND SEVERE BREAKDOWN OF MANAGEMENT CONTROL AND OVERSIGHT AT TVA IS SERIOUS AND, GIVEN THE SIZE OF THE TVA NUCLEAR PROGRAM, IS UNPRECEDENTED IN ITS SCOPE AND ECONOMIC RAMIFICATIONS. HOWEVER, ONE CANNOT CONCLUDE THAT A LICENSEE'S FAILINGS, NO MATTER HOW SEVERE, MUST REPRESENT A REGULATORY BREAKDOWN.

THE COMMISSION IS NOW ENGAGED IN DETERMINING HOW MUCH OF TVA'S PRESENT PROBLEMS COULD HAVE BEEN AVERTED BY NRC ACTION. IN ORDER TO ANSWER THIS QUESTION OBJECTIVELY, OUR OFFICE OF INSPECTOR AND AUDITOR AND THE TVA SENIOR MANAGEMENT TEAM STAFF ARE EVALUATING VARIOUS ASPECTS OF OUR INTERACTIONS WITH TVA TO DETERMINE WHAT ACTIONS WE MIGHT TAKE TO REDUCE THE PROBABILITY OF ANOTHER SIMILAR SITUATION OCCURRING IN THE FUTURE. ALSO, THE NRC ACTIONS REGARDING TVA ARE UNDER INVESTIGATION BY THE SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS. WHEN THESE ACTIONS ARE COMPLETED, WE WILL PROVIDE TO THE CONGRESS OUR CONCLUSIONS AND OUR PLANS FOR THE FUTURE.

Chairman Palladino and Commissioners Roberts, Bernthal, and Zech's
Response to Udall Question 9 - TVA

Question: Commissioner Asselstine has stated that the regulatory breakdown at TVA is the "single greatest failure of the NRC regulatory program since TMI".

What is each Commissioner's view as to the severity of the situation, the need for changes in NRC practices and procedures to assure that situations of this type do not recur?

Answer:

Chairman Palladino and Commissioners Roberts, Bernthal, and Zech do not concur in Commissioner Asselstine's assessment. The responsibility of the Nuclear Regulatory Commission is to regulate commercial nuclear power activities in order to protect the public health and safety. It is the responsibility of the utility, in this case, TVA, to construct, maintain, operate, and manage the facilities in such a manner as to protect the public health and safety. NRC establishes rules and standards, carefully monitors licensed activities, and takes enforcement steps if appropriate. In this sense, we do not currently believe that the TVA situation represents a severe regulatory breakdown. In fact, TVA made the decision to shut down their plants owing in large part to the regulatory concerns that had been expressed by the NRC. In the case of Sequoyah, it was equipment qualification; for Browns Ferry, it was a verbal request from the Regional Administrator to TVA to justify continued operation of the facility. Nevertheless, we do believe that there are lessons to be learned from the TVA situation that can be used to improve the performance of the NRC.

Indeed, TVA has had the benefit of considerable NRC attention over the past few years. The number of inspections, enforcement and management

conferences, civil penalties, confirmatory action letters, and Systematic Assessment of Licensee Performance (SALP) report ratings confirm this observation. A special regulatory improvement program was required to be implemented at Browns Ferry and a NRC senior management oversight team was established to monitor Browns Ferry operations. Since similar actions by other utilities had been successful in resolving like problems, it was believed that these actions would be successful at Browns Ferry. Management changes and new programs take time to implement and take effect. It takes time to determine if the changes were effective. As a result, significant delays can occur between the identification and effective resolution of a problem. The NRC was monitoring this process and was clearly devoting more than average resources to the TVA situation. In our minds, the question is whether the NRC could have been more timely or more aggressive in analyzing the TVA performance trends, or whether the NRC could have been more demanding in directing TVA corrective actions.

Information gathered by the current OI and CIA investigations will help the Commission answer these questions, but we believe the NRC has already taken and can probably take even more actions to reduce the likelihood of a similar occurrence. Valuable lessons are being learned; there is always room for improvement not only by TVA, but also by NRC.

Actions the NRC has already taken include new safety system functional inspections and pilot outage inspections. We are looking at better ways to apply inspection resources by using SALP categories and, as you are

aware, by putting at least two resident inspectors at every site. All these actions should help the agency identify problems at plants in a more timely manner.

In summary, it is important to recognize that NRC regulates while TVA constructs, maintains, operates, and manages the facilities. The NRC strives to learn from all its regulatory experiences. Within our regulatory role, we believe we are devoting the resources necessary to help TVA solve its problems. We will continue to look for ways to improve our regulatory actions as more information becomes available.

Commissioner Zech adds that he has recently asked the Commission to consider tasking the staff to better use specific performance indicators that the agency can track and analyze in one centralized location in order for the NRC to be able to better recognize increasing and declining performance trends. Some of these indicators might be unplanned scrams, Engineered Safeguard Feature (ESF) actuations, number of Licensee Event Reports (LERs), number of personnel errors and SALP report categories. Although the Commission majority did not support this approach, he is continuing to attempt to focus his attention on performance indicators. (Commissioner Asselstine supported Commissioner Zech's proposal.)

Question 9

Commissioner Asselstine adds the following:

This Agency was aware of significant quality assurance problems within TVA as early as 1975. (See the attached memorandum from me to the EDO dated January 21, 1986.) I believe we arrived at the current state of affairs largely because this Agency has historically been reluctant to face up to management issues.

The NRC Authorization Act for fiscal years 1982/83 (P.L. 97-415) directed the NRC to conduct a study of quality and quality assurance (QA) in the design and construction of nuclear power plants and to develop improvements to NRC's and the industry's programs for achieving and assuring quality in design and construction. In April 1984, the staff completed its report "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants, NUREG-1055." The staff reported that the key to achieving and assuring quality lies with utility management. The report highlights the fact that one of the greatest contributors to the risk associated with nuclear plants is the human component which plays a part in design, construction, operation and maintenance of nuclear facilities. And, how the human element affects nuclear plants, whether for good or for ill, depends largely upon the quality of utility management. The Commission seems to take this idea one step too far. In a recent letter we informed the Congress of the Commission's final actions related to P.L.

97-415. In that letter, a copy of which is attached, the Commission states:

"To put its decisions into suitable context, the Commission wishes to make clear licensees, not the NRC, are primarily responsible for achieving and assuring quality. Substantial improvements in quality in the nuclear industry must come from the industry itself; they cannot be 'inspected in' or 'regulated in' by the NRC." (See letter from Chairman Palladino to the Honorable Thomas P. O'Neill, Jr., dated December 12, 1985.)

As indicated in my separate views on that letter, I believe the Commission has substantial responsibility for assuring quality. The NRC must establish and enforce minimum standards to ensure quality in the design, construction, operation and maintenance of nuclear power plants. The Commission cannot abdicate this responsibility and merely rely on the industry to regulate itself.

In the case of TVA, as in the past, we are reviewing their proposals and programs. Where we find programs to be acceptable, we so inform them. That is missing a major lesson that should have been evident years ago -- TVA may develop good programs but, historically, TVA does not adequately implement them. A change in the head of operations and a set of new programs and calculations will not by themselves adequately resolve the past failings at TVA. The Commission must become much more aggressive in working with and in requiring TVA to improve its performance.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

January 21, 1986

MEMORANDUM FOR: Victor Stello
Acting Executive Director for Operations

FROM: James K. Asselstine

SUBJECT: QUALITY ASSURANCE AT TVA

Following are observations of NRC senior officials regarding the TVA quality assurance program in 1975 at hearings before the Joint Committee on Atomic Energy following the Browns Ferry fire:

- " Dr. Hanauer. "We turn now to the discussion of the oops in the lines of defense - the failures that occurred at Browns Ferry. They included weaknesses in equipment design, operating procedures and quality control. The NRC must take its share of the responsibility for these failures. Browns Ferry was licensed after review of the proposed design and operation. So the lessons are for NRC as well as the industry."
(Browns Ferry Nuclear Fire, Hearings before the Joint Committee on Atomic Energy, Congress of the United States, Ninety-Fourth Congress, First Session, September 16, 1975, p. 87)
- " Representative Price. "Mr. Chairman, I just would like to say for years the Joint Committee emphasized quality control. I don't know how many hearings we have had on that. Most of the equipment in this particular plant should have benefited over the years. So there is a real tight quality control program; yet we find here that one of the failures that occurred at Browns Ferry was in quality control. Would someone address themselves to that and tell us what type of equipment fell into that category?"
Dr. Knuth. "Yes. This is, of course, one of the issues that we did highlight in our investigation report and our enforcement correspondence with TVA. In the quality assurance system, adequate procedures for controlling work in vital areas such as the cable spreading room were not adequately evaluated; and in our view, procedures were not detailed enough to exert quality control. There also was not sufficient independence of the quality control people observing and witnessing what the people were doing in the work area." (Ibid, p. 92)

In the Report of the Special Review Group on Browns Ferry

Fire (NUREG-0050, February 1976), the following are observed:

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"Quality assurance (QA) programs are intended to catch errors in design, construction, and operation, and to rectify such errors; QA is an essential component of defense-in-depth. Many aspects of the Browns Ferry fire can be considered as lapses in QA." (p. 6)

"The Review Group believes that the causes, course, and consequences of the Browns Ferry fire are evidence of substantial inadequacies in the Browns Ferry QA program. A revised QA program has been adopted by TVA; the Group has not evaluated the details of the new program. It should be evaluated in the light of experience. The Review Group notes that IIRC (and formerly AFC) licensing review and inspection also failed to uncover these lapses in QA." (p. 6)

"The description of the Browns Ferry QA program for operations is on pages 24-30 of Appendix D, FSAR. It was judged to be acceptable then; it would not be acceptable by today's standards." (p. 49)

Taking 1976 as the starting point, I would like to learn for what periods of time through 1985 the staff believes TVA had and implemented an adequate QA program in their Headquarters Offices, at Browns Ferry, at Sequoyah and at Watts Bar.

cc: Chairman Palladino
Commissioner Roberts
Commissioner Bernthal
Commissioner Zech
OPE
OGC
SECY

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OFFICE OF THE
CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

December 12, 1985

The Honorable Thomas P. O'Neill, Jr.
Speaker of the United States
House of Representatives
Washington, DC 20515

Dear Mr. Speaker:

The NRC Authorization Act for fiscal years 1982/83 (P.L. 97-415) directed the NRC to conduct a study of quality and quality assurance (QA) in the design and construction of nuclear power plants and to develop improvements to NRC's and the industry's programs for achieving and assuring quality in design and construction. In April 1984, the NRC staff completed their study in response to that Congressional request. The report of that study is entitled "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants." The Commission transmitted that report to Congress on April 20, 1984, and it was subsequently published as an NRC staff report, NUREG-1055. In the transmittal letter, the Commission indicated that the staff report was complex and had several interrelated recommendations. The Commission also indicated that it would need to take further time for analysis, including an opportunity for public comments, before informing Congress of its final actions or recommendations for legislation.

The Commission has completed that process and its staff is currently implementing a plan entitled "Programs to Improve Quality and the Assurance of Quality in the Design, Construction and Operation of Licensed Nuclear Activities." This plan, with minor exception, implements the recommendations of NUREG-1055.

The Commission's conclusions and exceptions regarding the QA report, which was previously transmitted to Congress as a staff report, are contained in Attachment A. As required by P.L. 97-415, administrative actions that are underway or planned by the Commission as a direct consequence of the QA report are summarized in Tables 1 and 2 of Attachment A.

To put its decisions into suitable context, the Commission wishes to make clear that licensees, not the NRC, are primarily responsible for achieving and assuring quality. Substantive improvements in quality in the nuclear industry must come from the industry itself; they cannot be "inspected in" or "regulated in" by the NRC. The QA report found that the key to achieving quality and assuring quality lies with utility management. The focus of NRC's and the industry's programs for improving quality in the nuclear industry should be oriented toward prevention and early detection of quality problems, and identifying and correcting root causes of those quality problems.

The NRC has significantly increased its design and construction inspection effort for plants currently under construction, including such things as adding a second resident inspector at all single-unit construction sites. The NRC has made a number of other improvements to its overall programs which have the

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The Honorable Thomas P. O'Neill

effect of improving quality in the nuclear industry. These improvements focus largely on the approximately ninety units presently licensed for operation and include such initiatives as improved training and requalification programs for plant operational staff; increased staff and industry attention to preventive and routine maintenance; a major new focus on the effectiveness and quality of plant activities related to plant outages; and a thorough reanalysis, for all operating plants, of the NRC-required technical specifications issued as conditions of operating licenses.

Since the introduction of the legislation that led to the QA study, the industry also has initiated a number of activities that should result in an overall improvement in the quality of nuclear plant construction and operations. These include the Construction Project Evaluation Program of the Institute of Nuclear Power Operations (INPO); the establishment of a new senior-level industry group, the Nuclear Utility Management and Human Resources Committee (NUMARC), to address some of the difficult people-oriented issues facing the industry, such as operator training; and the voluntary use of third-party management audits by some utilities. In addition, two utilities have volunteered to undertake a pilot test of the readiness review concept identified by the QA report as an area for further analysis. Georgia Power Company is applying the concept to their Vogtle project and the Washington Public Power Supply System is employing the concept for the potential restart of their WNP-3 project. Readiness Reviews are expected to lead to improvements in managing, licensing, and confirming the quality of nuclear construction projects, including the incremental acceptance by NRC of properly completed work. These pilot tests are underway and are being closely followed by the Commission and the industry.

As stated in its policy and planning guidance to the staff, the Commission believes that NRC's fundamental task is to ensure that existing nuclear facilities and those coming on-line operate safely. Consequently, the highest priority will be given to assuring that operating facilities maintain adequate protection of public health and safety. Following operating plants, in decreasing order of priority, are plants currently under construction and future plants for which construction applications have not yet been received. Budget and resource limitations preclude the extensive development of quality and quality assurance initiatives for the future generation of nuclear power plants. However, the Commission recognizes that the success of this future generation of plants is closely coupled to an aggressive and mature policy and implementation plan assuring quality and quality assurance in design and construction. Therefore, the Commission intends to explore creative solutions to past design and construction QA problems and to apply these solutions where opportunities are presented in the future. Where possible, the Commission will draw from the experience of activities underway at operating plants. The Commission views the present hiatus in new plant orders as an opportune time to address innovative QA approaches through such pilot programs.

Although the staff's program plan necessarily deals principally with NRC actions, we believe that it does embody the Commission's QA philosophy, which emphasizes the importance of the industry's role in improving nuclear quality. The NRC directly controls only its own activities, but NRC actions can provide great leverage to foster or inhibit licensee actions. The QA report made it clear that simple regulatory compliance is not enough to assure excellence in the

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The Honorable Thomas P. O'Neill

construction or operation of nuclear power plants. The planned NRC QA program revisions are intended to create an environment which maximizes the incentives for and ability of utilities to achieve excellence while assuring compliance with the Commission's regulations.

At this time, no changes to NRC authorizing legislation are recommended. Each of the Commission's proposed administrative actions can be implemented within the NRC's current statutory authority. However, after further analysis, some issues may result in legislative proposals at a future date.

Commissioner Asselstine adds the following comments:

I believe that the NRC staff report "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants, NUREG-1055," provides many useful insights. For example, the staff reported that the key to achieving and assuring quality lies with utility management. The report highlights the fact that one of the greatest contributors to the risk associated with nuclear plants is the human component which plays a part in design, construction, operation and maintenance of nuclear facilities. And, how the human element affects nuclear plants, whether for good or for ill, depends largely upon the quality of utility management.

However, the Commission seems to take this idea one step too far. The Commission's letter states:

To put its decisions into suitable context, the Commission wishes to make clear that licensees, not the NRC, are primarily responsible for achieving and assuring quality. Substantial improvements in quality in the nuclear industry must come from the industry itself; they cannot be "inspected in" or "regulated in" by the NRC.

While I agree that the primary responsibility for achieving quality must lie with the industry, the Commission also has substantial responsibility for assuring quality. The NRC must establish and enforce minimum standards to ensure quality in the design, construction, operation, and maintenance of nuclear power plants. The Commission cannot abdicate this responsibility and merely rely on the industry to regulate itself.

In my view, the Commission should do much more to ensure quality in operation and maintenance of plants than it does presently. Instead, the Commission has chosen not to take aggressive action to ensure quality. Specifically, the NRC's quality assurance plan, "Programs to Improve Quality and the Assurance of Quality in the Design, Construction, and Operation of Licensed Nuclear Activities," does not go far enough. A fundamental premise of the plan is the idea that the NRC cannot regulate in quality. The Commission has used this philosophy as an excuse to defer regulatory initiatives in the area of plant operations, maintenance, and management, and instead to rely upon voluntary industry programs in these essential areas.

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The Honorable Thomas P. O'Neill

The Commission should not take the most useful insight from the NRC staff report, that utility management and the human component are key to quality, misinterpret it, and then use it as a reason to step back from and do less in the area of operations and maintenance. Rather, the Commission should use that insight as a springboard and get much more involved in working with the industry to ensure quality.

I also agree with Commissioner Bernthal's comments.

Commissioner Bernthal adds the following comments:

The Commission's letter leaves too much unsaid; its proposed actions will surely be judged inadequate to meet the challenges that lie ahead. Wicland, Zimmer, Marble Hill and doubtless other plants which never approached the threshold of completion remain as monuments to abrogation of responsibility by government at all levels. The public will and should demand better in the 1990's. I do not believe the NRC will be prepared to offer better if the Commission contents itself to focus almost exclusively on operating plants for the foreseeable future.

Serious consideration should be given now to the concept of third-party QA audits during plant construction, and to the institutional framework that might be required to carry out such audit functions. For example, NRC appears to know and care surprisingly little about the considerable success of the Technische Überwachungs-Verein (TUV) third-party audit program in Germany, a program that deserves careful study by NRC to determine what an American analog may have to offer.

The "designated representative" concept that has served the airline industry so ably deserves further exploration as well, at least to determine the level of utility interest, and to see whether utility volunteers for a pilot program might be found.

In short, I consider the Commission's commitment to the future to be insufficient. As a minimum, the Commission should initiate, and Congress should fund the following:

- A serious, in-depth study of the third-party audit concept for future power plant construction.
- A pilot program to test the third-party audit concept on major plant modifications during planned outages. This would allow the Commission and licensees to gain experience, on small scale, with one concept that shows promise for improved quality assurance, but which cannot and should not now be broadly implemented because of resource limitations and the current hiatus in new power plant orders.
- A pilot program for volunteer utilities to test the designated representative concept.

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The Honorable Thomas P. O'Neill

These few specific actions hardly constitute a tall order or a burdensome commitment; there are doubtless other concepts which deserve similar active exploration by the Commission.

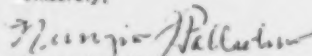
Chairman Palladino adds the following comment:

The Commission has expended significant resources on quality assurance. The information provided in this letter and attachments thereto clearly attest to this fact. Furthermore, the Commission has continued to authorize significant expenditures of funds for QA initiatives. The most recent approval authorized \$1,500,000 for technical assistance contracts to help us develop and implement quality assurance programs.

I believe that the Commission has afforded the correct priority and appropriate resources to quality assurance consistent with our budget constraints. This letter is meant to describe how the NRC is meeting, and will continue to meet, its QA responsibilities. Emphasis has been placed on operating plants and new plants coming on-line; we will continue to look at ways to improve our QA Program for these plants. These actions certainly do not lend credence to Commissioner Assestine's assertion that the NRC's philosophy to not "regulate in quality" is "an excuse to defer further regulatory initiatives...and instead to rely upon voluntary industry programs in these essential areas."

Regarding Commissioner Bernthal's comments about the Commission's involvement with future plants, we are considering, or have considered the initiatives he suggested. However, we do not feel that attention to future construction should dilute our efforts to ensure high quality assurance for existing plants and those coming on-line.

Sincerely,


Nunzio J. Palladino
Chairman

Enclosure:
Attachment A, Commission Conclusions on the
Staff QA Report to Congress

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ATTACHMENT A

COMMISSION CONCLUSIONS ON THE STAFF QA REPORT TO CONGRESS

The Commission is in general agreement with the findings and conclusions of the QA report (which was previously forwarded to Congress as a staff report) and has approved the staff's action plan (which takes into account public comments received on the QA report and current budget limitations) to implement the findings of the report. The Commission endorses the staff's earlier findings, conclusions and recommendations contained in the QA report, with the following modifications:

- 1) We do not think, at this time, that construction permits (CPs) for future nuclear power plant applicants need be conditioned on post-CP demonstration by the applicant of its capability and effectiveness in implementing its quality assurance program. The NRC has ample authority within its current regulations to take appropriate action if a licensee does not capably and effectively implement its QA program. Changes in the Commission's practices are being undertaken, however, to improve NRC and licensee ability to assess the effectiveness of QA programs at the earliest possible stage in the construction process. Licensees should demonstrate the effectiveness of their programs continually throughout the construction process, but the CP need not be conditioned on such demonstration.
- 2) It is not clear that a new, special advisory board needs to be established to supplement staff advice on the qualifications of new applicants. This is one alternative that would have to be further analyzed before implementation to see if an additional source of advice is needed or whether an already existing body (e.g., the Advisory Committee on Reactor Safeguards) could perform that function. Efforts by industry-sponsored groups such as the Nuclear Utility Management and Human Resources Committee (NUMARC) and the Institute of Nuclear Power Operations (INPO), having the effect of a "self-screening" process, will also affect any decision in this area. Planned further analysis of the advisory board concept will not be undertaken at this time.
- 3) Other feasible alternatives to mandatory third-party audits are available to accomplish the QA program goals of improved management and increased prevention and detection capability. Readiness reviews, now being tested and evaluated at the Vogtle nuclear plant and WNP-3, provide one possible alternative. Increased NRC use of team inspections and resident inspectors and voluntary use of third parties by some utilities provide other alternatives. As a result of these considerations, the staff has proposed, and the Commission has agreed, to defer rulemaking activities to require periodic third-party audits for plants under construction, pending results of the pilot Readiness Review Program tests.

TABLE 1. Commission Action on Staff Recommendations Contained in the QA Report to Congress (see NUREG-1055, Table 2.1)

QA Report Recommendation	Commission Action
1. Enhanced Pre-Construction Permit (CP) Review of Experience and Managerial Quality	Seek opportunities to test concepts with industry volunteers
Establishment of an Advisory Board	Dropped pending exploration of potential industry action on this topic
2. Post-CP Demonstration of Management Effectiveness	Dropped in favor of Readiness Review program
3. QA Program Performance Objectives	NRC inspection program being revised to place more emphasis on performance
4. Management Appraisals as an Adjunct to Construction Appraisal Team (CAT) Inspections	Dropped in favor of readiness reviews and other management initiatives
5. Inspection Prioritization of Plants Currently Under Construction (Problem Plant Identification)	All plants currently under construction are receiving a "graded" inspection approach. Additional work planned in this area
6. Improved Diagnostic Capability/Trend Analysis	Implement as part of QA Performance Objectives program
7. Senior Management Meetings	Being implemented
8. Enhanced Vendor Program	Being implemented
9. Third-Party Audit/Interim CAT Inspections/Interim Independent Design Verification Program (IDVP)	Third-party rulemaking deferred pending outcome of readiness review program; perform CAT inspections at 4/year (no expansion in program); continue IDVP on case-by-case basis
10. Regional Team Inspections	Increasing use of team inspections. Pilots under way in several NRC regions
11. Expanded Resident Program	More residents being assigned to sites. Pilot test under way in one NRC region to reduce regional inspections in favor of resident inspections
12. Improved Licensee Detection Capability	Primary responsibility for improvement remains with industry. NRC inspection program revisions will cause greater NRC attention to this area
13. Independent Audits of NRC QA Programs	Being implemented

TABLE 2. Commission Action on Staff Recommendations for Further Analysis Contained in the QA Report to Congress (see NUREG-1055, Table 2.2)

Area Recommended For Further Analysis	Commission Action
1. QA Report-Type Study for Plants in Operation	Separate report not necessary--lessons from plants under construction also apply to operating plants
2. Prioritization of QA Measures: Guidance on "Safety-Related" vs. "Important to Safety"	The Commission has a proposed rulemaking under review
3. Measuring Effectiveness of QA	Further analysis conducted. Results being used in revised NRC inspection program
4. Essentially Complete Design at CP Stage	Regulatory reform legislation has been proposed to Congress that addresses this issue
5. Configuration Management	Seek opportunities to test concepts with industry volunteers
6. Readiness Reviews	Pilot programs at Vogtle and WNP-3 underway
7. Quality Engineering	Further analysis and developmental work not planned due to budget priorities
8. Alternate Ownership and Management Arrangements	Efforts redirected to explore improvements within current arrangements in an all operating reactor environment
9. Feasibility of Designated Representatives	Further consideration deferred pending a licensee request for a pilot program
10. Limiting Construction Permits	Analysis of the problems faced by NRC in the event of resumption of nuclear plant construction is included as a possible contingency in the study described in B., above

QUESTION 10. WHAT IS THE COMMISSION'S RESPONSE TO THE OBSERVATION THAT THE DECEMBER 26 ACCIDENT AT RANCHO SECO WAS A CLOSE CALL WHICH EMPHASIZES THE NEED FOR A REASSESSMENT OF THE ADEQUACY OF THE NRC'S EFFORTS TO ASSURE THAT A PTS EVENT DOES NOT LEAD TO A CATASTROPHIC ACCIDENT?

RESPONSE:

DURING DEVELOPMENT OF THE PRESSURIZED THERMAL SHOCK (PTS) RULE, THE STAFF TOOK INTO FULL ACCOUNT THE POSSIBLE RANGE OF PTS EVENTS. THE MOST SEVERE EVENTS (THAT RESULT IN THE LOWEST TEMPERATURES) WERE TAKEN INTO ACCOUNT BASED ON THEORETICAL PREDICTION METHODS, SINCE THEY OCCUR AT A FREQUENCY SO LOW THAT NONE HAVE BEEN EXPERIENCED. THE EIGHT MOST SEVERE EVENTS THAT HAD ACTUALLY OCCURRED WERE EXPLICITLY TAKEN INTO ACCOUNT, USING THE OBSERVED FREQUENCY OF OCCURRENCE AND THE LOWEST TEMPERATURES EXPERIENCED DURING THE EVENTS, WHICH RANGED FROM 225°F FOR THE MOST SEVERE TO 350°F FOR THE LEAST SEVERE EVENT. NUMEROUS LESS SEVERE EVENTS THAT HAD OCCURRED, WITH LOWEST TEMPERATURES ABOVE 350°F, WERE ALSO TAKEN INTO ACCOUNT. THESE EVENTS WERE OF NEGLIGIBLE SAFETY SIGNIFICANCE DUE TO THE RELATIVELY WARM LOWEST TEMPERATURES REACHED: THAT IS, THEY POSED NO SIGNIFICANT THREAT TO VESSEL INTEGRITY. HOWEVER, THEY

QUESTION 10. (CONT.)

DO OCCUR AT A HIGHER FREQUENCY THAN THE MORE SEVERE EVENTS, AND THEREFORE WERE TAKEN INTO ACCOUNT BECAUSE OF THE POSSIBILITY THAT ADDITIONAL FAILURES OR ERRORS COULD HAVE OCCURRED DURING THE EVENTS, CAUSING PTS EVENTS OF MORE SEVERE PROPORTIONS. IT WAS FULLY ANTICIPATED THAT IT WOULD NOT BE POSSIBLE TO TOTALLY ELIMINATE THE FUTURE OCCURRENCE OF ALL SUCH LESS SEVERE EVENTS, EVEN WITH THE TRAINING AND PROCEDURAL IMPROVEMENTS THAT HAVE NOW BEEN ACCOMPLISHED.

TAKING ALL OF THE ABOVE INTO ACCOUNT, THE STAFF CONCLUDED THAT PTS-RELATED RISK AT ANY PRESSURIZED WATER REACTOR IS ACCEPTABLE SO LONG AS THE VESSEL'S MAXIMUM RT_{NDT} (A MEASURE OF DUCTILITY LOSS AND SUSCEPTIBILITY TO BRITTLE FRACTURE) REMAINS BELOW 270°F, WHICH IS THEREFORE THE RT_{NDT} LIMIT STATED IN THE PTS RULE.

THE RECENT RANCHO SECO EVENT REACHED A LOWEST TEMPERATURE OF 386°F AND THUS FALLS INTO THE CATEGORY OF THE "NUMEROUS LESS SEVERE EVENTS" ALREADY DISCUSSED. THE LICENSEE MUST PERFORM ANALYSES DEMONSTRATING LACK OF ANY SIGNIFICANT THREAT TO THE VESSEL'S INTEGRITY BEFORE PLANT RE-START WILL BE ALLOWED. BASED ON PRIOR ANALYSES OF SIMILAR EVENTS, WE BELIEVE THOSE ANALYSES WILL SHOW THAT NO SIGNIFICANT CHALLENGE TO VESSEL INTEGRITY OCCURRED. THIS EVENTS' OCCURRENCE THEREFORE DOES

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QUESTION 10. (CONT.)

NOT INVALIDATE OR CALL INTO QUESTION ANY OF THE BASES OF THE PTS RULE. HENCE, NO REASSESSMENT OF THE PTS RULE IS PLANNED.

HOWEVER, THE STAFF SENT AN INCIDENT INVESTIGATION TEAM (IIT) TO RANCHO SECO TO EXAMINE A NUMBER OF ISSUES, INCLUDING THE OCCURRENCE RATE OF THESE LESS SEVERE CATEGORY PTS EVENTS AT RANCHO SECO. THE STAFF ALSO HAS INITIATED ACTIONS TO ADDRESS THE SAME QUESTIONS AT ALL OTHER B&W PLANTS. THESE EFFORTS ARE TO DETERMINE THE CAUSES OF THESE EVENTS AND IDENTIFY ANY ACTIONS THAT SHOULD BE REQUIRED AT THESE PLANTS TO REDUCE THE FREQUENCY OF SUCH EVENTS. THE INTENT IS TO REDUCE THE FREQUENCY OF THESE EVENTS, THEREBY REDUCING THE CHANCE OF A MORE SEVERE PTS EVENT THAT COULD OCCUR IF ADDITIONAL FAILURES OR ERRORS WERE TO HAPPEN AS PART OF SOME FUTURE EVENT OF THIS TYPE. A COMMISSION MEETING TO DISCUSS THE IIT REPORT HAS BEEN SCHEDULED FOR LATE FEBRUARY.

Question 10

Commissioner Asselstine adds the following:

While I approved the final PTS rule, I would have gone a step further by exploring the practicality of a requirement that would have led to the search for single failure vulnerabilities or common cause events (including human error) that could lead to unacceptable PTS events. The December 26, 1985 accident at Rancho Seco suggests a value in reassessing the PTS hazard and the adequacy of the Commission's efforts to reduce it, to ensure that every practical step has been taken to avoid a reactor pressure failure.

QUESTION 11. (A) PLEASE PROVIDE A BRIEF STATEMENT DESCRIBING THE JANUARY 4 ACCIDENT AT KERR-McGEE'S UF₆ PLANT, THE CAUSES OF THIS EVENT, AND THE NEED, IF ANY, FOR REGULATORY CHANGES IN LIGHT OF THIS EVENT.

ANSWER.

ON JANUARY 4, 1986, THERE WAS AN ACCIDENT AT THE KERR-McGEE SEQUOYAH FACILITY, LOCATED NEAR GORE, OKLAHOMA. IT INVOLVED THE RELEASE OF A LARGE QUANTITY OF URANIUM HEXAFLUORIDE (UF₆) FROM A SHIPPING CYLINDER. UPON EXPOSURE TO AIR, UF₆ RAPIDLY COMBINES WITH MOISTURE TO FORM URANYL FLUORIDE (UO₂F₂) AND HYDROGEN FLUORIDE (HF). THE LATTER IS A VERY REACTIVE (BUT NONRADIOACTIVE) ACID THAT CAN BE LETHAL IF A PERSON IS EXPOSED TO SUFFICIENT CONCENTRATIONS. THE ONE DEATH RESULTING FROM THE KERR-McGEE ACCIDENT REPORTEDLY WAS DUE TO INHALATION OF HF.

THE ACCIDENT OCCURRED WHILE THE CYLINDER WAS BEING HEATED BY STEAM WHICH APPARENTLY WAS NOT PROPER LICENSEE PROCEDURE. WE ARE INVESTIGATING THE CAUSES OF THE ACCIDENT, INCLUDING THE PHYSICAL CAUSE OF THE RUPTURE. BASED ON VISUAL EXAMINATION OF THE CYLINDER, TECHNICAL SPECIALISTS PRELIMINARILY CONCLUDED THAT THE RUPTURE WAS CAUSED BY HYDRAULIC PRESSURE. HOWEVER, THE EXACT CAUSE OF THE RUPTURE IS BEING CONFIRMED BY LABORATORY ANALYSIS AND CALCULATIONS. THE STAFF WILL DETERMINE THE NEED, IF ANY, FOR ENFORCEMENT ACTIONS AND REGULATORY CHANGES UPON COMPLETION OF ITS INVESTIGATION.

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QUESTION 11. (B) IS THERE A REGULATORY GAP?

ANSWER.

TO GAIN A BETTER UNDERSTANDING OF THE RESPONSIBILITIES AND PROGRAMS OF OTHER FEDERAL AGENCIES RELATED TO FUEL CYCLE FACILITIES REGULATED BY THE NRC STAFF MET ON JANUARY 22, 1986 WITH HEADQUARTERS REPRESENTATIVES OF THE OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA). SHOULD REGULATORY GAPS BE IDENTIFIED AS A RESULT OF THIS EFFORT, CONSIDERATION WILL BE GIVEN TO THE MOST EFFECTIVE MANNER TO ELIMINATE THEM.

QUESTION 11. (C) WHAT STEPS HAVE BEEN TAKEN OR ARE UNDER CONSIDERATION TO PREVENT SUCH ACCIDENTS IN THE FUTURE?

ANSWER.

A LESSONS LEARNED GROUP HAS BEEN FORMED AND WILL CONSIDER THE STEPS THAT SHOULD BE TAKEN TO PREVENT SUCH ACCIDENTS FROM OCCURRING IN THE FUTURE. IN THE MEANTIME, THE FEW OTHER NRC LICENSEES THAT HAVE PROCESSES INVOLVING THIS MATERIAL ARE BEING KEPT INFORMED, AS IS DOE. A LESSONS LEARNED REPORT IS EXPECTED WITHIN ABOUT 8 WEEKS AT WHICH TIME ANY REQUIREMENTS FOR FUTURE ACCIDENT PREVENTION WILL BE ASSESSED.

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QUESTION 11. (D) WHY HAS THE COMMISSION NOT REQUIRED URANIUM PROCESSING FACILITIES AND SIMILAR MATERIALS LICENSEES TO MAINTAIN FINANCIAL PROTECTION UNDER THE PRICE ANDERSON ACT ?

ANSWER.

SUBSECTION 170A OF THE PRICE-ANDERSON ACT ALLOWS NRC DISCRETION TO REQUIRE FINANCIAL PROTECTION AND TO EXTEND INDEMNITY COVERAGE TO ACTIVITIES NOT INVOLVING THE OPERATION OF PRODUCTION OR UTILIZATION FACILITIES. SUBSEQUENT TO THE RENEWAL OF PRICE-ANDERSON IN 1975 THE COMMISSION CONSIDERED WHETHER IT SHOULD EXERCISE ITS DISCRETIONARY AUTHORITY AND REQUIRE FINANCIAL PROTECTION FOR MATERIAL LICENSEES IN GENERAL AND SPECIFICALLY A CERTAIN CLASS OF MATERIALS LICENSEES, I.E., THOSE POSSESSING OR USING PLUTONIUM IN PLUTONIUM PROCESSING AND FUEL FABRICATION PLANTS. AFTER STUDYING THE ISSUE, THE NRC DECIDED IN 1977 TO EXERCISE ITS DISCRETIONARY AUTHORITY BY REQUIRING FINANCIAL PROTECTION OF AND EXTENDING INDEMNITY TO THOSE PLUTONIUM PROCESSING AND FUEL FABRICATION PLANT LICENSEES AUTHORIZED TO POSSESS PLUTONIUM IN AMOUNTS OF FIVE (5) KILOGRAMS OR MORE. IT SHOULD BE NOTED THAT WHENEVER THE COMMISSION EXERCISES ITS DISCRETIONARY AUTHORITY AND REQUIRES A LICENSEE OTHER THAN A POWER REACTOR LICENSEE TO HAVE AND MAINTAIN FINANCIAL PROTECTION, THE RETROSPECTIVE PREMIUM LAYER OF FINANCIAL PROTECTION IS NOT APPLICABLE. HOWEVER, THE PRICE-ANDERSON ACT REQUIRES THAT THE COMMISSION INDEMNIFY THE LICENSEE IN THE EVENT OF A NUCLEAR

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QUESTION 11(D), (CONT'D)

INCIDENT INDEMNITY IN CONNECTION WITH THE LICENSED ACTIVITY. THE AMOUNT OF GOVERNMENT INDEMNITY IS LIMITED TO \$500 MILLION; HOWEVER, WHERE THE FINANCIAL PROTECTION REQUIRED OF THE LICENSEE EXCEEDS \$60 MILLION, GOVERNMENT INDEMNITY IS REDUCED BY THE AMOUNT OF THIS EXCESS. IT SHOULD ALSO BE EMPHASIZED THAT THESE FUNDS WOULD ONLY BE AVAILABLE TO PAY PUBLIC LIABILITY CLAIMS RESULTING FROM A "NUCLEAR INCIDENT" AS THAT TERM IS DEFINED IN SUBSECTION 11q, OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED. THIS MEANS THAT THE PERSONAL INJURY OR PROPERTY DAMAGE MUST ARISE OUT OF OR RESULT FROM "THE RADIOACTIVE, TOXIC, EXPLOSIVE, OR OTHER HAZARDOUS PROPERTIES OF SOURCE, SPECIAL NUCLEAR, OR BYPRODUCT MATERIAL" BEING USED BY THE LICENSEE. THUS, PRICE-ANDERSON FUNDS WOULD NOT COVER THE CONSEQUENCES OF AN ACCIDENT THAT IS PURELY CHEMICAL IN NATURE AND NOT A RADIOLOGICALLY RELATED ACCIDENT.

BASED ON WORK PERFORMED FOR THE NRC BY THE OAK RIDGE NATIONAL LABORATORY AND AN IN-HOUSE STUDY OF THIS QUESTION, IN 1980 THE NRC STAFF ADVISED THE COMMISSION THAT NO APPARENT NEED EXISTED TO EXTEND PRICE-ANDERSON COVERAGE TO OTHER CLASSES OF MATERIALS LICENSEES. AT THAT TIME THE INSURANCE THAT COULD BE PURCHASED THROUGH THE NUCLEAR INSURANCE POOLS OR PURCHASED FROM OTHER PRIVATE SOURCES EXCEEDED THE ESTIMATED COST OF ANY ACCIDENT THAT COULD OCCUR AT THESE FACILITIES. THE INSURANCE CLIMATE APPEARS TO HAVE CHANGED. IN CONJUNCTION WITH ITS REVIEW OF THE COMMENTS ON THE ANPR NOTED BELOW, THE STAFF IS REASSESSING THE PRESENT AVAILABILITY OF PRIVATE INSURANCE FOR THESE ACTIVITIES.

THE COMMISSION STAFF IS PRESENTLY REVIEWING COMMENTS RECEIVED IN CONNECTION WITH AN ADVANCED NOTICE OF PROPOSED RULEMAKING (ANPR) ON THE QUESTION OF REQUIRING INSURANCE OR OTHER GUARANTEES FROM MATERIALS LICENSEES TO COVER THE COSTS OF BOTH ONSITE AND OFFSITE CLEANUP RESULTING FROM A NUCLEAR ACCIDENT. IT IS ANTICIPATED THAT AFTER EVALUATION OF THESE COMMENTS AS WELL AS FURTHER STUDY OF THIS QUESTION, THE STAFF WILL BE IN A BETTER POSITION TO PROVIDE GUIDANCE TO THE COMMISSION ON WHETHER FINANCIAL ASSURANCE REQUIREMENTS SHOULD BE IMPOSED ON MATERIALS LICENSEES.

QUESTION 12. (A) PLEASE DESCRIBE THE STATUS OF NEGOTIATIONS BETWEEN THE COMMISSION AND THE ENVIRONMENTAL PROTECTION AGENCY REGARDING REGULATION OF LOW-LEVEL NUCLEAR WASTE DISPOSAL AND URANIUM MILL TAILINGS. IF THE COMMISSION BELIEVES LEGISLATION IS NECESSARY TO CLARIFY THE JURISDICTIONAL ROLES OF THE AGENCIES, SPECIFICALLY WHAT LEGISLATIVE CHANGES DOES THE COMMISSION RECOMMEND?

ANSWER.

ALTHOUGH THE ATOMIC ENERGY ACT GAVE NRC EXCLUSIVE JURISDICTION OVER SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIAL, THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), EPA REGULATIONS AND HAZARDOUS WASTE DISPOSAL PERMIT REQUIREMENTS RAISE QUESTIONS AS TO WHETHER RADIOACTIVE WASTES WHICH CONTAIN CHEMICAL CONSTITUENTS DEFINED AS HAZARDOUS UNDER EPA REGULATIONS ARE ALSO SUBJECT TO DIRECT EPA JURISDICTION AND REGULATION.

LOW-LEVEL NUCLEAR WASTE

NRC ISSUED ITS REGULATIONS FOR NEAR-SURFACE DISPOSAL OF LLW (10 CFR PART 61) IN DECEMBER OF 1982. EPA MAINTAINED THAT PART 61 DID NOT ADEQUATELY ADDRESS DISPOSAL OF THE HAZARDOUS, NON-RADIOACTIVE CONSTITUENTS OF LLW AND COMMENTED THAT "AS A MINIMUM, PART 61

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QUESTION 12.(A) (CON'T)

REGULATIONS SHOULD INDICATE THAT THESE MATERIALS MUST BE HANDLED IN A MANNER COMPATIBLE WITH RCRA REQUIREMENTS." NEGOTIATIONS ON AN MOU TO CLAPIFY THE REGULATION OF LLW SITES HAVE BEEN UNDERWAY SINCE THAT TIME. DISCUSSIONS ON AN MOU WERE DEFERRED BY MUTUAL CONSENT IN 1984 PENDING COMPLETION OF NRC STUDIES TO ANALYZE COMMERCIAL LLW STREAMS TO DETERMINE THE EXTENT AND NATURE OF THE NON-RADIOACTIVE COMPONENTS AND TO RECOMMEND MANAGEMENT PRACTICES TO ENHANCE GROUNDWATER PROTECTION. THE FIRST STUDY IDENTIFYING THE NON-RADIOACTIVE HAZARDOUS COMPONENT IN LLW WAS COMPLETED IN DECEMBER, 1985, AND THE REPORT ON MANAGEMENT OPTIONS IS DUE TO BE ISSUED FOR PUBLIC COMMENT IN FEBRUARY 1986. NRC WILL DEVELOP RECOMMENDATIONS FOR THE MANAGEMENT OF MIXED LOW-LEVEL WASTES AFTER REVIEWING THE COMMENTS ON THAT DOCUMENT.

THE COMMISSION IS CONCERNED THAT CONTINUING UNCERTAINTIES MAY BE AN OBSTACLE TO SUCCESSFUL IMPLEMENTATION OF THE RECENT LOW-LEVEL RADIOACTIVE WASTE POLICY ACT AMENDMENTS OF 1985. LEGISLATION CLARIFYING THE RESPECTIVE ROLES OF THE EPA, NRC, AND THE STATES IS THEREFORE RECOMMENDED. THE COMMISSION SUPPORTS THE LEGISLATIVE APPROACH TAKEN IN SECTION 15 OF H.R. 1033 AS REPORTED BY THE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, ALTHOUGH WE ARE RECOMMENDING SOME MODIFICATIONS TO THAT PROPOSAL.

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QUESTION 12.(A) (CON'T)

FIRST, THE BILL DID NOT CLEARLY SPECIFY THAT THE DELEGATION OF AUTHORITY FOR MIXED WASTES FROM EPA TO NRC WOULD SUPERSEDE ANY PRIOR DELEGATIONS OF AUTHORITY BY EPA TO STATES TO ISSUE PERMITS AS THEY WOULD APPLY TO NRC-LICENSED DISPOSAL FACILITIES. WITHOUT SUCH CLARIFICATION, SECTION 15 MAY BE CONSTRUED TO PROVIDE THAT NRC IS TO BE DELEGATED AUTHORITY IN ADDITION TO SUCH STATES, AND NRC-LICENSED FACILITIES WITHIN THESE STATES COULD BE SUBJECT TO DUAL NRC-STATE AGENCY REGULATION UNDER RCRA.

SECOND, SECTION 15 IS SILENT REGARDING WHETHER PURSUANT TO THE EPA-NRC AGREEMENT MANDATED UNDER THAT SECTION, THE NRC COULD REDELEGATE ITS RCRA AUTHORITY FOR MIXED-WASTE REGULATION TO ITS AGREEMENT STATES. IT WOULD BE APPROPRIATE TO CLARIFY THAT THE NRC COULD DELEGATE ITS RCRA AUTHORITY TO AGREEMENT STATES AUTHORIZED TO REGULATE LOW-LEVEL DISPOSAL FACILITIES UNDER SECTION 274B, OF THE ATOMIC ENERGY ACT. IT SHOULD ALSO BE MADE CLEAR THAT THIS AUTHORITY WOULD BE CARRIED OUT UNDER NRC OVERSIGHT PURSUANT TO ITS AGREEMENT WITH EPA.

URANIUM MILL TAILINGS

EPA'S MILL TAILINGS STANDARDS INCORPORATE GROUNDWATER PROTECTION REQUIREMENTS FOR TAILINGS CONSTITUENTS DEFINED AS HAZARDOUS UNDER RCRA. THESE REQUIREMENTS ARE NOT CONSISTENT WITH REQUIREMENTS

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QUESTION 12.(A) (CON'T)

PREVIOUSLY ESTABLISHED BY NRC FOR PROTECTION OF PUBLIC HEALTH, NEGOTIATIONS WITH EPA WERE INITIATED SOON AFTER THE EPA STANDARDS WERE ISSUED IN OCTOBER OF 1983, TO FACILITATE NRC IMPLEMENTATION, TO REDUCE INCONSISTENCIES, AND TO CLARIFY RESPONSIBILITIES. MANY OF THE ORIGINAL ISSUES HAVE BEEN RESOLVED. THE KEY ISSUE REMAINING IS HOW NRC WILL DECIDE ON SITE-SPECIFIC APPLICATIONS FOR ALTERNATE CONCENTRATION LIMITS (ACL'S) AND TO WHAT EXTENT EPA WILL BE INVOLVED IN THOSE DECISIONS. RECENT EFFORTS HAVE BEEN DIRECTED TOWARD DEVELOPMENT OF A MUTUALLY AGREEABLE GENERIC METHODOLOGY FOR EVALUATING ACL APPLICATIONS. TOWARDS THAT END, NRC AND EPA STAFFS HAVE EXCHANGED INITIAL DRAFT ACL GUIDANCE DOCUMENTS. ADDITIONAL DOCUMENTS ARE UNDER PREPARATION BY EPA AND WILL BE REVIEWED WHEN COMPLETED. NRC BELIEVES THAT USE OF AN EPA-ACCEPTED GENERIC METHODOLOGY WILL RESOLVE THIS ISSUE. THEREFORE, NRC DOES NOT RECOMMEND FURTHER LEGISLATIVE CHANGES FOR MILL TAILINGS AT THIS TIME.

QUESTION 12. (B) PLEASE PROVIDE THE COMMITTEE WITH AN OVERVIEW OF ANY ONGOING LITIGATION CONCERNING NRC'S ROLE IN THE REGULATION OF URANIUM MILL TAILINGS, AND A DESCRIPTION OF THE STATUS OF NEGOTIATIONS BETWEEN THE COMMISSION AND THE ENVIRONMENTAL PROTECTION AGENCY REGARDING MILL TAILINGS REGULATION.

ANSWER.

OVERVIEW OF ONGOING LITIGATION

1. NRC REGULATIONS IN 10 CFR PART 40

A. KERR-MCGEE CORP. AND OTHERS V. NRC (10TH CIR. NO. 80-2043, 80-2271, 80-2269, 80-2043)

ON OCTOBER 3, 1980, KERR-MCGEE, ET AL., PETITIONED THE TENTH CIRCUIT TO REVIEW THE COMMISSION'S URANIUM MILL LICENSING REQUIREMENTS IN 10 CFR PART 40. SEE 45 FED. REG. 65521 (OCT. 3, 1980). THE INDUSTRY CHALLENGED THE COMMISSION'S REGULATIONS ON A NUMBER OF GROUNDS, INCLUDING ALLEGED INSIGNIFICANCE OF THE RADON RISK, EXCESSIVE COST OF COMPLYING WITH THE REGULATIONS AND THE NRC'S FAILURE TO AWAIT PROMULGATION OF EPA STANDARDS. IN 1982 A PANEL OF THE COURT UPHELD THE REGULATIONS BUT REHEARING EN BANC WAS GRANTED. THIS CASE REMAINS IN ABEYANCE PENDING THE COMPLETION OF

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QUESTION 12.(B) (CONT'D)

RULEMAKING CONFORMING NRC REQUIREMENTS TO EPA STANDARDS
PROMULGATED SEPTEMBER 30, 1983. NRC CONFORMED ITS RULES TO SOME
OF THE EPA STANDARDS ON OCTOBER 16, 1985 (50 FR 41852) BUT
RULEMAKING WITH RESPECT TO EPA'S GROUNDWATER STANDARDS HAS NOT YET
BEEN COMPLETED.

6. QUIVIRA MINING CO., ET AL. v. NRC, (10TH CIR. NO. 85-2853)
ENVIRONMENTAL DEFENSE FUND, ET AL. v. NRC (D.C. CIR. NO. 85-1817)

ON DECEMBER 13, 1985, QUIVIRA ET AL. FILED SUIT CHALLENGING NRC
FINAL RULE CHANGES TO 10 CFR PART 40, 50 FED. REG. 41852
(OCTOBER 16, 1985). THESE AMENDMENTS CONFORM NRC REQUIREMENTS TO
THE STABILITY AND RADON RELEASE PROVISIONS OF EPA STANDARDS FOR
URANIUM AND THORIUM MILL TAILINGS (40 CFR PART 192). ON
JANUARY 31, 1986, QUIVIRA AND NRC JOINTLY MOVED THE COURT TO HOLD
THIS CASE IN ABEYANCE PENDING SUPREME COURT ACTION ON THE
PETITIONS FOR CERTIORARI, FILED ON JANUARY 28, 1986, IN AMERICAN
MINING CONGRESS, ET AL. v. THOMAS, 772 F. 2D 640 (10TH CIR. 1985)
AND AMERICAN MINING CONGRESS, ET AL. v. THOMAS, 772 F. 2D 617
(10TH CIR. 1985). IN THESE CASES THE 10TH CIRCUIT UPHELD EPA'S
STANDARDS. ON JANUARY 24, 1986, NRC MOVED THE D.C. CIRCUIT TO
TRANSFER THE EDF CASE, WHICH CHALLENGES THE SAME RULE, TO THE
10TH CIRCUIT.

QUESTION 12.(B) (CONT'D)

2. NRC REGULATIONS IN 10 CFR PART 20

AMERICAN MINING CONGRESS V. U.S.A. (10TH CIR. NO. 81-1566)
KERR-MCGEE NUCLEAR CORP., ET AL. V. NRC (10TH CIR. NO.
81-1569)

ON MAY 22, 1981 KERR-MCGEE NUCLEAR CORPORATION, HOMESTAKE MINING COMPANY AND AMC FILED PETITIONS TO REVIEW THE AMENDMENT TO 10 CFR PART 20 WHICH INCORPORATED EXPLICITLY 40 CFR PART 190, THE EPA'S GENERAL ENVIRONMENTAL STANDARDS FOR URANIUM FUEL CYCLE FACILITIES INCLUDING URANIUM MILLS. SEE 46 FR 18525 (MARCH 25, 1981). PETITIONERS ALSO SOUGHT REVIEW OF THE COMMISSION'S MARCH 26, 1981 DENIAL OF THEIR MOTION TO RECONSIDER OR DEFER IMPLEMENTATION OF THE EPA REGULATIONS AT URANIUM MILLS PENDING A FINAL DECISION ON THEIR MOTION TO EPA TO RECONSIDER THE REGULATIONS. THE LAWSUITS HAVE BEEN HELD IN ABEYANCE PENDING EPA'S RESOLUTION OF AMC'S PETITION TO REOPEN THE RECORD AND RECONSIDER THE GENERAL STANDARDS.

3. HEARING REQUESTS ON NRC IMPLEMENTATION OF 40 CFR PART 192

HEARING REQUEST (ADMINISTRATIVELY BEFORE COMMISSION; NOT IN COURTS)

THE NRC ISSUED ORDERS IMPLEMENTING DETECTION MONITORING REQUIREMENTS IN EPA'S MILL TAILINGS STANDARDS ON JULY 19, 1985.

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QUESTION 12.(B). (CONT'D)

LICENSES WERE AMENDED BY ADDING CONDITIONS REQUIRING LICENSEES TO IMPLEMENT A GROUND-WATER DETECTION MONITORING PROGRAM TO ENSURE COMPLIANCE WITH 40 CFR 192. OF THE 13 LICENSEES ORDERED TO COMPLY, 11 REQUESTED HEARINGS. AS A RESULT OF CONSIDERATION OF LICENSEE COMMENTS, A REVISION OF ORDERS TO MODIFY LICENSES WAS PUBLISHED IN THE FEDERAL REGISTER NOVEMBER 7, 1985 (50 FR 46370). THE ORDERS WERE REVISED TO WITHDRAW THE IMMEDIATE EFFECTIVENESS.

FOLLOWING THIS NOTICE THE ENVIRONMENTAL DEFENSE FUND REQUESTED PARTICIPATION IN THE HEARING IN A LETTER DATED DECEMBER 2, 1985.

4. RELATED CASES

A. ATLANTIC RICHFIELD CO., AND OTHER MILLING COMPANIES V. U.S.A.
(U.S. CLAIMS COURT NO. 576-84-C, 580-84-C, 143-84-C, 581-84-C,
144-84-C, 579-84-C, 565-84-C, 281-83-C)

THESE CASES WERE FILED AGAINST THE UNITED STATES TO RECOVER ANTICIPATED EXPENSES OF CLEANING UP TAILINGS PILES GENERATED IN CARRYING OUT URANIUM MINING AND MILLING OPERATIONS UNDER CONTRACT WITH THE FEDERAL GOVERNMENT. PLAINTIFFS FILED SUIT IN THE COURT OF CLAIMS INVOKING THE DOCTRINE OF "MUTUAL MISTAKE" TO ASK THE COURT TO REFORM THEIR CONTRACTS TO PROVIDE REIMBURSEMENT TO THE PLAINTIFFS FOR THE COSTS OF ITS MILL TAILINGS CLEANUP. THE FEDERAL GOVERNMENT HAS FILED MOTIONS ASKING THE COURT TO DISMISS EACH OF THESE CASES. THE COURT HAS NOT YET RULED ON THE MOTIONS.

QUESTION 12.(B) (CONT'D)

B. AMERICAN MINING CONGRESS AND OTHERS V. EPA (10TH CIR. NO. 83-2226, 1014, 1352, 1482, 1908, 1041, 1206, 1300, 1602C, 2277, 2227, 2504, 2524, 1349)

ON SEPTEMBER 30, 1983, THE EPA PROMULGATED STANDARDS FOR REGULATING MILL TAILINGS PILES AT ACTIVE (TITLE II) AND INACTIVE (TITLE I) URANIUM PROCESSING SITES. CASE NO. 83-2226 OPPOSED THE EPA STANDARDS FOR ACTIVE MILLS AND CASE NO. 83-1014 OPPOSED EPA STANDARDS FOR INACTIVE MILLS. OTHER CASES RAISED PROCEDURAL ISSUES. THE TENTH CIRCUIT COURT OF APPEALS DECISIONS OF SEPTEMBER 3, 1985 UPHELD EPA STANDARDS FOR TITLE I AND TITLE II SITES WITH THE EXCEPTION OF TITLE I GROUND WATER STANDARDS. GROUND WATER CONTAMINATION REGULATIONS FOR INACTIVE URANIUM MILL SITES WERE REMANDED TO THE AGENCY FOR FURTHER CONSIDERATION. THE TENTH CIRCUIT DENIED A PETITION FOR REHEARING BUT A PETITION OF CERTIORARI WAS SUBMITTED TO THE SUPREME COURT ON JANUARY 28, 1986.

STATUS OF NEGOTIATIONS BETWEEN NRC AND EPA

THE RESPONSE TO THIS PART OF THE QUESTION IS CONTAINED IN THE RESPONSE TO QUESTION 12.(A).

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QUESTION 12. (C) ARE THE AMOUNTS CURRENTLY HELD IN SURETY ARRANGEMENTS FOR ACTIVE URANIUM PROCESSING SITES ADEQUATE TO ENSURE RECLAMATION ACCORDING TO THE EXISTING STANDARDS? IF NOT, WHY NOT? DOES NRC INTEND TO MODIFY ITS SURETY REQUIREMENTS TO COMPENSATE FOR ANY DIFFERENCE?

ANSWER.

THE MAJORITY OF THE SURETY ARRANGEMENTS AT NRC- AND AGREEMENT STATE-LICENSED URANIUM RECOVERY FACILITIES WERE ESTABLISHED PRIOR TO IMPLEMENTING THE EPA STANDARDS AND DO NOT COVER FUNDING FOR GROUNDWATER RESTORATION. THESE SURETY ARRANGEMENTS NEED TO BE RE-EVALUATED IN LIGHT OF THE EPA GROUNDWATER STANDARDS (40 CFR PART 192). THE NRC LICENSING STAFF IS IN THE PROCESS OF REQUIRING LICENSEES TO UPDATE THEIR RECLAMATION PLANS TO INCLUDE GROUNDWATER RESTORATION, WHEN APPLICABLE. IT SHOULD BE NOTED THAT, IN THE CASE OF THE STATE OF NEW MEXICO WHICH IS AN AGREEMENT STATE, THE STATE DOES NOT BELIEVE ITS CURRENT SURETY ARRANGEMENTS FOR TAILINGS STABILIZATION TO BE ADEQUATE SINCE THEY WERE BASED ON STATE REGULATIONS WHICH ARE LESS STRINGENT THAN THOSE OF NRC OR EPA. EFFORTS ARE UNDERWAY IN NEW MEXICO TO CHANGE THESE STATE REGULATIONS TO MAKE THEM COMPATIBLE WITH APPLICABLE FEDERAL STANDARDS.

QUESTION 13. (A) WHAT DOES THE COMMISSION VIEW AS THE MAJOR LEGAL, TECHNICAL, AND ADMINISTRATIVE ISSUES FACING THE NRC CONCERNING THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM?

ANSWER.

1. IDENTIFY AND IMPLEMENT EFFICIENCIES IN THE LICENSING PROCESS THAT WOULD ENABLE THE NRC TO MEET THE THREE-YEAR STATUTORY MANDATE FOR A CONSTRUCTION AUTHORIZATION DECISION.
2. IDENTIFY AND IMPLEMENT ACTION TO PROVIDE TECHNICAL CONTINUITY AND AVOID CONFLICT OF INTEREST IN NRC'S TECHNICAL CONTRACT SUPPORT WORK OVER THE LONG DURATION OF THE PROGRAM (20 + YEARS).
3. DEVELOP TECHNICAL CONSENSUS ON METHODOLOGIES FOR DEMONSTRATING COMPLIANCE WITH 10 CFR 60 REQUIREMENTS.
4. DEVELOP A CONSENSUS ON THE QA PROGRAM NECESSARY TO SUPPORT THE LICENSING PROCESS AND AVOID PROBLEMS SUCH AS HAVE OCCURRED IN CERTAIN REACTOR PLANTS.
5. ENSURE EFFECTIVE AND TIMELY INVOLVEMENT BY HOST STATES AND AFFECTED INDIAN TRIBES IN ITEMS 3 AND 4 ABOVE.
6. DEVELOP A COMMON UNDERSTANDING THAT NRC'S ROLE IS LIMITED TO NRC ACTIONS SPECIFIED IN THE NWA (AS NRC IS PLANNING AND BUDGETING) RATHER THAN ALSO CONSISTING OF A BROAD OVERSIGHT OVER DOE'S GENERAL IMPLEMENTATION OF THE TOTAL ACT.

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QUESTION 13. (B) PLEASE PROVIDE AN OVERVIEW OF NRC'S ROLE WITH REGARD TO OVERSEEING THE DEPARTMENT OF ENERGY'S IMPLEMENTATION OF THE HIGH-LEVEL WASTE PROGRAM. WHAT SPECIFICALLY WILL BE THE COMMISSION'S RESPONSIBILITIES CONCERNING THE PROPOSED CONSTRUCTION OF A MONITORED RETRIEVABLE STORAGE FACILITY?

ANSWER.

THE NUCLEAR REGULATORY COMMISSION IS THE INDEPENDENT FEDERAL AGENCY HAVING PRIME REGULATORY RESPONSIBILITY UNDER THE NUCLEAR WASTE POLICY ACT OF 1982. THE NRC HAS THE REGULATORY AUTHORITY TO OVERSEE AND CONFIRM THAT DOE'S ACTIONS UNDER THE NWPA ADEQUATELY PROTECT PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT. DOE CANNOT BUILD OR OPERATE A GEOLOGIC REPOSITORY FOR HIGH-LEVEL RADIOACTIVE WASTES WITHOUT THE COMMISSION'S AUTHORIZATION. SIMILARLY, THE STORAGE OF COMMERCIAL SPENT FUEL PRIOR TO DISPOSAL IS UNDER NRC REGULATORY AUTHORITY. FOR THE NATIONAL WASTE PROGRAM, DOE HAS OPERATIONAL RESPONSIBILITY -- PLANNING, SITING, CONSTRUCTING, OPERATING, AND CLOSING THE FACILITIES. NRC FOCUSES ON THE HEALTH, SAFETY, AND ENVIRONMENTAL PROTECTION ASPECTS OF THE PROGRAM.

IF THE MONITORED RETRIEVABLE STORAGE (MRS) FACILITY IS AUTHORIZED BY CONGRESS, NRC HAS LICENSING AUTHORITY OVER THE FACILITY ON THE BASIS OF SAFETY AND ENVIRONMENTAL REVIEWS. BOTH THE ENVIRONMENTAL IMPACT REVIEW AND THE SAFETY EVALUATION REVIEW PROCEDURES OF THE NRC WOULD AFFORD AN OPPORTUNITY FOR FEDERAL, STATE, AND LOCAL AGENCIES AND THE PUBLIC TO OBTAIN INFORMATION AND COMMENT ON THE MRS FACILITY. INSPECTIONS WOULD BE CONDUCTED DURING CONSTRUCTION AND SUBSEQUENT OPERATION.

QUESTION 13. (C) NRC COMMENTS ON THE DEPARTMENT'S MISSION PLAN AND DRAFT PROJECT DECISION SCHEDULE ARE CRITICAL OF DOE'S NINE MONTH REDUCTION IN THE AMOUNT OF TIME ALLOTTED FOR NRC REVIEW OF A REPOSITORY LICENSE APPLICATION. BY LETTER OF OCTOBER 24, 1985, CHAIRMAN PALLADINO IDENTIFIED SIX ACTIONS WHICH, TOGETHER, MIGHT ALLOW THE COMMISSION TO COMPLY WITH DOE'S SCHEDULE. TO WHAT EXTENT HAVE SUBSEQUENT DOE ACTIONS OR COMMUNICATIONS INDICATED DOE'S INTENT TO ACT ON ANY OR ALL ASPECTS OF THE SIX-POINT PROGRAM?

ANSWER.

THE DOE MISSION PLAN AND THE DRAFT PROJECT DECISION SCHEDULE (PDS) CALL FOR A 27-MONTH PERIOD FOR NRC REVIEW OF A REPOSITORY LICENSE APPLICATION AS COMPARED TO THE 36-MONTH PERIOD (EXTENDABLE TO 48 MONTHS) SPECIFIED IN THE NWPA. THE OCTOBER 24, 1985 LETTER FROM CHAIRMAN PALLADINO COMMENTING ON THE DRAFT PDS STATES THAT MEETING THE 36 MONTH REVIEW PERIOD MIGHT BE POSSIBLE IF DOE COMPLETES, IN A TIMELY AND EXEMPLARY FASHION, SIX KEY ACTIONS. IN ADDITION, THE ADEQUACY OF A 36-MONTH REVIEW PERIOD IS STATED TO BE DEPENDENT ON THE SUBMITTAL BY DOE OF A COMPLETE AND HIGH-QUALITY APPLICATION FOR A REPOSITORY LICENSE. THE NRC IS COMMITTED TO MAKING THE LICENSING

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QUESTION 13(C). (CONT'D)

REVIEW AS EFFICIENT AS POSSIBLE BUT CONTINUES TO BELIEVE THAT THE 36 MONTHS PROVIDED IN SECTION 114(D) OF THE NWPA IS A VERY OPTIMISTIC ESTIMATE FOR THE TIME REQUIRED TO REACH A LICENSING DECISION ON REPOSITORY CONSTRUCTION. DOE HAS INDICATED ITS INTENT TO ACT ON EACH OF THE SIX KEY ACTIONS IDENTIFIED. HOWEVER, IT IS PREMATURE TO JUDGE THE DEGREE TO WHICH DOE WILL BE ABLE TO IMPLEMENT THE SIX KEY ACTIONS IN A TIMELY FASHION.

Question 13.

Commissioner Asselstine believes that the Commission's response to your question is inadequate. He believes that the response requires a much more thorough discussion of the legal, technical and administrative issues facing the Commission. He will provide you with his response to this question separately.

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QUESTION 14. USER FEES. PLEASE PROVIDE A STATEMENT OF THE COMMISSION'S VIEWS ON SECTION 7601 OF THE CONFERENCE REPORT ON THE CONSOLIDATED OMNIBUS RECONCILIATION ACT OF 1985 [131 CONG. REC. H13114 (DEC. 19, 1985)], WHICH WOULD REQUIRE THE NRC TO COLLECT 33 PERCENT OF ITS ANNUAL BUDGET FROM ITS LICENSEES THROUGH ANNUAL FEES.

ANSWER

IF THE INTENT OF THE PROPOSED LEGISLATION IS TO RECEIVE REVENUES THAT WOULD ACCOUNT FOR A LARGE PERCENT OF THE NRC BUDGET, THE COMMISSION HAS NO OBJECTION TO THE CONCEPT. THE COMMISSION HAS STRONG FEELINGS, HOWEVER, CONCERNING THE METHOD TO ACHIEVE THIS OBJECTIVE. THE PROPOSED LEGISLATION IS A VERY BROAD LEGISLATIVE DELEGATION OF FEE-SETTING AUTHORITY WITH FEW CONTROLLING STANDARDS. THIS KIND OF BROAD DELEGATION RESEMBLES AN AUTHORIZATION TO LEVY A TAX ON COMMISSION LICENSEES, WHICH COULD RAISE A SERIOUS CONSTITUTIONAL QUESTION. SEE NATIONAL CABLE TELEVISION V. UNITED STATES, 415 U.S. 336 (1974), AND FEDERAL POWER COMPANY V. NEW ENGLAND POWER COMPANY, 415 U.S. 345 (1974).

THE PROPOSED LEGISLATION WOULD ALSO IMPOSE A SEVERE ADMINISTRATIVE WORKLOAD THAT WOULD RESULT IN AN UNACCEPTABLY LARGE AMOUNT OF RESOURCES THAT SHOULD BE ALLOCATED TO PROGRAMS BEING SPENT ON EVALUATING, ASSESSING, ALLOCATING, COLLECTING, ACCOUNTING FOR

QUESTION 14. (CONT'D)

FEES. THE COMMISSION STRONGLY URGES THAT IN THE EVENT THE CONGRESS DECIDES TO SIGNIFICANTLY INCREASE THE REVENUE FOR NRC SERVICES AS INDICATED IN THE REFERENCED ACT, THE MEANS FOR SO DOING SHOULD BE EASY TO DESIGN AND IMPLEMENT, BE HANDLED BY CONGRESSIONAL LEGISLATION RATHER THAN BY COMMISSION RULE AND BE RELATIVELY STABLE. ONE METHOD IS TO DETERMINE THE AMOUNT OF REVENUE THAT IS DESIRED TO BE RECEIVED AND CALCULATE, ON THE BASIS OF COST PER DESIGN OR INSTALLED KILOWATT, AN ANNUAL ASSESSMENT FOR ALL OPERATING REACTORS IN THE COUNTRY. SUCH A SYSTEM SHOULD REPLACE THE LICENSE FEES CHARGED OPERATING REACTORS IN ACCORDANCE WITH THE PROVISIONS OF THE INDEPENDENT OFFICES APPROPRIATION ACT OF 1952 (31 U.S.C. SEC. 9701). LICENSE FEES FOR ALL REACTORS UNDER CONSTRUCTION AND ALL NON-REACTOR LICENSEES COULD CONTINUE AS IS. ESTABLISHING A FEE FOR OPERATING REACTORS BASED ON DESIGN/INSTALLED POWER HAS THE ADVANTAGES OF BEING EASY TO UNDERSTAND, IS READILY CALCULATED, AND REQUIRES VERY LITTLE ADMINISTRATIVE COSTS.

COMMISSIONER ROBERTS FEELS THAT FOR THE REGULATED TO FUND THE ACTIVITIES OF THE REGULATOR IS AN INIMICAL CONFLICT OF INTEREST.

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QUESTION 15. PRICE-ANDERSON

- (A) PLEASE COMMENT ON PROPOSALS TO ALLOW UTILITIES PAYING DEFERRED PREMIUMS UNDER SECTION 170B OF THE ATOMIC ENERGY ACT TO RECOVER THE AMOUNT OF SUCH PREMIUMS FROM ANY PERSON THAT MAY HAVE BEEN LIABLE FOR THE ACCIDENT. IN PARTICULAR, WHAT IMPACT WOULD ADOPTION OF THIS PROPOSAL HAVE ON: (A) THE ABILITY OF THE PUBLIC TO RECOVER PROMPTLY AND EFFICIENTLY IN THE EVENT OF AN ACCIDENT; (B) THE AVAILABILITY OF INSURANCE COVERAGE FOR NUCLEAR ENERGY ACTIVITIES; (C) THE SAFETY CONSCIOUSNESS OF UTILITIES, VENDORS, PART SUPPLIERS, AND OTHER PERSONS WHO MIGHT BE LIABLE UNDER THE PROPOSAL?

ANSWER.

(A) AN IMPORTANT FEATURE OF THE PRICE-ANDERSON ACT HAS ALWAYS BEEN THE "OMNIBUS COVERAGE" PROVISION WHEREBY THE SYSTEM PROVIDES LIABILITY PROTECTION NOT ONLY FOR THE UTILITIES NAMED IN THE INDEMNITY AGREEMENTS AND INSURANCE POLICIES BUT ALSO FOR ALL PERSONS WHO MAY BE LIABLE FOR THE NUCLEAR INCIDENT. PROPOSALS TO ALLOW RECOVERY OF PREMIUMS FROM ANY PERSON LIABLE FOR THE

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QUESTION 15(A). (CONT'D)

ACCIDENT WOULD NOT AFFECT THE GOAL OF FULL AND PROMPT RECOVERY BY INJURED MEMBERS OF THE PUBLIC FOR THEIR LEGITIMATE CLAIMS REGARDLESS OF WHO MAY BE LIABLE AND THE SIZE OF THEIR ASSETS. THESE SUBROGATION PROPOSALS, WHICH WOULD COME INTO PLAY AFTER THE RECOVERY BY THE PUBLIC OF THEIR CLAIMS, WOULD PRESENT A SIGNIFICANT, NEW EXPOSURE, HOWEVER, TO PERSONS WHO MAY BE LIABLE FOR A NUCLEAR INCIDENT AND THIS EXPOSURE WOULD NOT BE PROTECTED BY PRICE-ANDERSON.

(B) WE UNDERSTAND FROM OUR DISCUSSIONS WITH THE INSURANCE INDUSTRY THAT IT COULD AFFECT INSURANCE COVERAGE. OUR UNDERSTANDING IS THAT IF THE PERSON WHO COULD BE SUED FOR THE DEFERRED PREMIUMS WERE ABLE TO CALL ON OTHER (NON-PRICE-ANDERSON FINANCIAL PROTECTION) INSURANCE, THEN THE INSURANCE INDUSTRY WOULD NOT BE ABLE TO DETERMINE IN ADVANCE THE LIMITS OF THEIR INSURANCE EXPOSURE FOR A PARTICULAR ACCIDENT. AS LONG AS THERE IS A LIMITATION OF LIABILITY COUPLED WITH THE INSURANCE COMPANIES' PARTICIPATION EXCLUSIVELY THROUGH PRICE-ANDERSON FINANCIAL PROTECTION, THE COMPANIES KNOW THAT THEIR EXPOSURE, REGARDLESS OF WHO IS LIABLE, IS LIMITED TO THE AMOUNT OF CAPACITY THAT IS MADE AVAILABLE TO THE NUCLEAR INSURANCE POOLS.

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QUESTION 15(A), (CONT'D)

WERE THOUGHT TO REMOVE THIS DETERRENT EFFECT BY SHIELDING THE INSURED FROM THE CONSEQUENCES OF HIS BEHAVIOR. AS EXPERIENCE WITH LIABILITY INSURANCE GREW, IT BECAME APPARENT THAT THIS FEAR WAS UNFOUNDED, . . . BUT, WHILE THE ARGUMENT AGAINST PROVIDING PROTECTION FROM TORT LIABILITY HAS LONG SINCE BEEN DISCREDITED IN OTHER AREAS, IT CONTINUES TO BE RAISED IN CONNECTION WITH THE PROBLEM OF PROVIDING FINANCIAL PROTECTION AGAINST THE NUCLEAR RISK. SPECIFICALLY, THE PRICE-ANDERSON ACT CONTINUES TO BE CRITICIZED AS REMOVING AN IMPORTANT MOTIVATION FOR DIRECTING THE ATTENTION OF INDUSTRY TO THE SAFETY OF NUCLEAR POWER PLANTS."

THE COLUMBIA STUDY FURTHER POINTS OUT THAT THERE ARE SIGNIFICANT BUSINESS AND ECONOMIC PRESSURES ON THE UTILITY INDUSTRY TO PREVENT THE OCCURRENCE OF A NUCLEAR ACCIDENT. IF A NUCLEAR PLANT SUFFERS AN ACCIDENT, IN ADDITION TO THE DAMAGE TO THE REACTOR ITSELF, WHICH COULD VERY WELL EXCEED THE AMOUNT OF THE INSURANCE A UTILITY IS ABLE TO PURCHASE, THE COSTS OF PURCHASING REPLACEMENT POWER AND THE LOSS OF THE PLANT FROM THE UTILITY'S RATE BASE WOULD BE SUBSTANTIAL. IN ADDITION, THE STUDY STATES THAT THE THREE MILE ISLAND ACCIDENT DEMONSTRATED THAT MANUFACTURERS, ARCHITECT-ENGINEERS AND VENDORS ARE ALL POTENTIALLY EXPOSED TO LIABILITY FOR LOSSES OF THE UTILITY OTHER THAN THE COSTS OF THIRD PARTY LIABILITY CLAIMS COVERED UNDER THE PRICE-ANDERSON ACT.

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QUESTION 15(A). (CONT'D)

(C) A SIMILAR ARGUMENT HAS BEEN RAISED FROM TIME TO TIME ABOUT WHETHER THE LIMITATION OF LIABILITY PROVISION IN THE PRICE-ANDERSON ACT ACTS AS A DISINCENTIVE TO THE SAFE OPERATION OF NUCLEAR POWER PLANTS. A NUMBER OF THE REBUTTALS MADE TO THAT PROPOSITION ARE EQUALLY VALID IN CONNECTION WITH THIS PRESENT PROPOSAL. FIRST, THE DESIGN, CONSTRUCTION AND OPERATION OF NUCLEAR POWER PLANTS RESTS IN PART UPON A STRINGENT FEDERAL REGULATION SYSTEM. LICENSEES ARE REQUIRED TO COMPLY WITH COMPREHENSIVE SAFETY STANDARDS. VIOLATIONS OF THESE STANDARDS MAY RESULT IN THE IMPOSITION OF CIVIL MONETARY FINES AND, IN SERIOUS CASES, EVEN REVOCATION OF A LICENSE. SECOND, IN RESPONSE TO THE THREE MILE ISLAND ACCIDENT, THE INDUSTRY ESTABLISHED THE INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO) TO IMPROVE THE OPERATIONS OF NUCLEAR POWER PLANTS AND PROVIDE FOR GREATER COORDINATION WITHIN THE INDUSTRY. FURTHER, AS POINTED OUT IN THE JANUARY 1984 COLUMBIA UNIVERSITY LEGISLATIVE DRAFTING RESEARCH FUND STUDY:

"ONE OF THE FUNDAMENTAL PREMISES UNDERLYING THE IMPOSITION OF LIABILITY FOR NEGLIGENT ACTS AT COMMON LAW WAS THAT THE THREAT OF INCURRING SUCH LIABILITY WOULD ACT AS A DETERRENT TO NEGLIGENT BEHAVIOR. ON THE BASIS OF THIS PREMISE, EARLY LIABILITY INSURANCE PLANS WERE ATTACKED, AND IN A FEW CASES ACTUALLY HELD VOID AS AGAINST PUBLIC POLICY BECAUSE THEY

QUESTION 15. PRICE-ANDERSON

- (B) PLEASE COMMENT ON THE IMPLICATIONS OF
REDEFINING "PUBLIC LIABILITY" UNDER SECTION
11W OF THE ATOMIC ENERGY ACT SO AS TO EXCLUDE
CLAIMS FOR PUNITIVE DAMAGES.

ANSWER.

THE COMMISSION IS ON RECORD AS SUPPORTING MODIFICATION OF THE PRICE-ANDERSON SYSTEM TO EXPLICITLY EXCLUDE COVERAGE OF PUNITIVE DAMAGES. IN THE COMMISSION'S VIEW, THE PUNITIVE EFFECT OF SUCH AWARDS IS LOST IF A DEFENDANT CAN INSURE ITSELF AGAINST SUCH LIABILITY UNDER THE PRICE-ANDERSON SYSTEM. FURTHER, IN ANY EVENT, AT THE VERY LEAST PAYMENT OF PUNITIVE DAMAGES SHOULD NOT BE ALLOWED TO DISPLACE PAYMENT FOR COMPENSATORY DAMAGES. SO LONG AS THERE IS A CAP OR A PRACTICAL LIMIT ON THE AMOUNT OF LIABILITY PER ACCIDENT, ULTIMATE COMPENSATORY PAYMENT FOR DAMAGES OF A NUCLEAR ACCIDENT COULD BE JEOPARDIZED BY EARLIER ASSESSMENTS OF PUNITIVE DAMAGES.

Q15

Commissioner Asselstine Adds:

I am not opposed to proposals to allow utilities paying deferred premiums under section 170B of the AEA to recover the amount of such premiums from any person who may have been responsible for the accident. The proposal would not have an adverse effect on the public's ability to recover quickly because the deferred premiums would be available. On the other hand, it would help to address the fairness problem -- that a licensee has to pay for an accident which it did not cause.

As a practical matter in the case of a large consequence accident, the utility experiencing the event is likely to be in very poor financial shape and will not be very real source of funds. However, a provision to allow recovery from anyone responsible would enable utilities to seek recovery of their premiums from other responsible entities such as vendors, parts suppliers, etc., and may in turn create an increased safety consciousness in those persons.

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QUESTION 16. ROLE OF INTERVENORS

PLEASE IDENTIFY MAJOR INSTANCES IN WHICH SIGNIFICANT SAFETY ISSUES HAVE COME TO LIGHT AS A RESULT OF ACTIONS TAKEN BY LICENSEES' EMPLOYEES OR CONTRACTORS WHO BYPASSED THE LICENSEES' ESTABLISHED REPORTING SYSTEM, OR BY PUBLIC INTEREST GROUPS, INTERVENORS, INPO, OR CONGRESSIONAL OVERSIGHT COMMITTEE? WHY WAS THE NRC UNABLE TO UNCOVER THESE PROBLEMS THROUGH ESTABLISHED REPORTING AND INSPECTION PROCEDURES?

ANSWER

OUR ANSWER IS PRESENTED IN TERMS OF THE VARIOUS GROUPS IDENTIFIED IN THE QUESTION WITH EXAMPLES THAT CHARACTERIZE THE TYPES OF CONCERNS RAISED BY EACH GROUP. LICENSEE EMPLOYEES AND CONTRACTORS HAVE FIRST-HAND KNOWLEDGE OF ON-SITE ACTIVITIES THEY PARTICIPATED IN OR OBSERVED, AND OFTEN ARE THE MAJOR SOURCE FOR IDENTIFYING PROBLEMS - BOTH THOSE WHICH COME TO LIGHT THROUGH THE ESTABLISHED REPORTING SYSTEMS AND THOSE WHICH DO NOT. INTERVENOR GROUPS MAY RAISE ISSUES INDEPENDENTLY OR MAY RAISE SAFETY ISSUES ON BEHALF OF LICENSEE EMPLOYEES OR CONTRACTORS.

QUESTION 16, (CONT'D)

MAJOR INSTANCES OF SAFETY ISSUES COMING TO LIGHT AS A RESULT OF ACTION TAKEN BY LICENSEES' EMPLOYEES OR CONTRACTORS, WHERE THE LICENSEES' ESTABLISHED REPORTING SYSTEM WAS BYPASSED, ARE EXEMPLIFIED BY (1) ANONYMOUS CONCERNS REPORTED TO THE NRC AND A LICENSEE CONTRACTOR INVOLVING A TVA FACILITY (ISSUES REGARDING THE GENERAL ADEQUACY OF WELDING, CABLING, AND MANAGEMENT) AND (2) ISSUES SUCH AS THOSE RAISED BY PIPE SUPPORT DESIGNERS ON THE COMANCHE PEAK FACILITY INVOLVING SPECIFIC DESIGN ISSUES ON SAFETY RELATED PIPE SUPPORTS. EACH OF THESE EXAMPLES ACTED AS A CATALYST LEADING TO MAJOR SAFETY REVIEWS BY LICENSEES AND THE NRC STAFF FOR THE AFFECTED FACILITIES.

IT APPEARS THAT IN SUCH CASES THE EMPLOYEES OR CONTRACTORS PERCEIVED THAT THEIR CONCERNS WERE BEING IGNORED BY LICENSEE MANAGEMENT OR THAT SOME DEGREE OF FEAR OF REPRISAL EXISTED SUCH THAT THEY DID NOT FEEL COMFORTABLE TAKING SUCH ISSUES TO THEIR MANAGEMENT. AS A RESULT, NORMAL LICENSEE CHANNELS WERE NOT EFFECTIVE IN IDENTIFYING AND RESOLVING THE CONCERNS.

INTERVENORS HAVE RECENTLY BROUGHT SIGNIFICANT SAFETY ISSUES TO LIGHT. INTERVENORS IN THE COMANCHE PEAK CASE RAISED QA AND PIPING AND PIPE SUPPORT CONTENTIONS AS A RESULT OF INFORMATION RECEIVED FROM ALLEGERS. INTERVENORS IN THE SHEARON HARRIS

QUESTION 16. (CONT'D)

CASE RAISED THE QUESTION OF WHETHER EMERGENCY SIRENS COULD BE HEARD AT NIGHT IN THE SUMMERTIME. AS A RESULT, THE APPLICANT HAS DECIDED TO DISTRIBUTE TONE ALERT RADIOS TO RESIDENTS IN THE AREAS WHERE NIGHTTIME AROUSAL WAS QUESTIONABLE.

WITH RESPECT TO NRC'S ABILITY TO UNCOVER SUCH PROBLEMS, IT IS IMPORTANT TO NOTE THAT THE PURPOSE OF THE NRC'S INSPECTION PROGRAM IS TO ENSURE, BY MEANS OF INSPECTIONS DONE ON A SAMPLING BASIS, THAT LICENSEES HAVE ESTABLISHED AND IMPLEMENTED PROCEDURES TO ENSURE THAT NUCLEAR FACILITIES ARE CONSTRUCTED AND OPERATED IN ACCORDANCE WITH NRC REQUIREMENTS AND LICENSEE COMMITMENTS. THE KEYSTONE OF THE NRC'S INSPECTION PROGRAM IS VERIFICATION THAT THE APPLICANT HAS AN ADEQUATE QUALITY ASSURANCE PROGRAM THAT IS BEING EFFECTIVELY IMPLEMENTED. THE NRC PROGRAM CONSISTS OF (1) REVIEW OF THE APPLICANT'S QA PROGRAM, INCLUDING THE PROGRAMS OF THE VARIOUS SITE CONTRACTORS;

QUESTION 16. (CONT'D)

(2) OBSERVATION, ON A SAMPLING BASIS, OF THE ACTUAL WORK AND INSPECTION ACTIVITIES IN THE FIELD; AND (3) REVIEW, AGAIN ON A SAMPLING BASIS, OF THE RECORDS AND LICENSEE ACTIONS WHICH DOCUMENT BOTH THE WORK ACCOMPLISHED AND THE RESULTS OF THE LICENSEE'S SELF INSPECTIONS AND AUDITS.

DURING THE DESIGN AND CONSTRUCTION OF A NUCLEAR POWER PLANT IT IS NEITHER UNUSUAL NOR UNEXPECTED THAT DESIGN ERRORS OR EQUIPMENT MALFUNCTIONS ARE DETECTED AND CORRECTED BY THE CONTRACTOR. THE NRC REGULATIONS REQUIRE THAT THE LICENSEE MAINTAIN AN EFFECTIVE QUALITY ASSURANCE PROGRAM THAT FOLLOWS UP EACH ASPECT OF THE PLANT'S CONSTRUCTION TO ASSURE THAT THE FACILITY AND ITS CONSTITUENT SYSTEMS ARE CONSTRUCTED AS DESIGNED AND ARE PROPERLY INSPECTED AND TESTED TO DETECT DESIGN OR CONSTRUCTION ERRORS.

THE INTENT OF NRC INSPECTIONS IS NOT TO IDENTIFY EVERY DEFICIENCY IN MATERIALS OR WORKMANSHIP (WHICH IS NOT PRACTICABLE CONSIDERING THE RESOURCE LIMITATIONS OF THE NRC), BUT RATHER TO ENSURE THAT THE LICENSEE IS DISCHARGING ITS RESPONSIBILITY BY IDENTIFYING AND REQUIRING CORRECTIONS OF SAFETY RELATED DESIGN AND CONSTRUCTION DEFICIENCIES. THIS APPROACH, COUPLED WITH THE MULTIPLE LEVELS OF SAFETY WHICH ARE DESIGNED INTO THE PLANT THROUGH REDUNDANCY OF SAFETY SYSTEMS AND CONTAINMENTS AND THE MARGINS OF SAFETY IN STRUCTURAL DESIGN, IS MEANT TO ENSURE THAT ANY UNIDENTIFIED DEFICIENCIES IN CONSTRUCTION WILL NOT BE OF A SIGNIFICANCE, TYPE, OR QUANTITY WHICH WILL COMPROMISE THE OVERALL SAFETY OF THE PLANT DURING FUTURE OPERATIONS.

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QUESTION 17. LEGAL OFFICES

PLEASE DESCRIBE THE COMMISSION'S PLANS FOR COMBINING ITS OFFICE OF GENERAL COUNSEL WITH THE OFFICE OF THE EXECUTIVE LEGAL DIRECTOR. WHAT IS THE PURPOSE OF THIS ACTION? WHAT ARE THE IMPLICATIONS OF THIS ACTION?

ANSWER.

THE COMMISSION DECIDED DURING RECENT DELIBERATIONS ON THE FY 1987 BUDGET TO COMBINE THE TWO OFFICES INTO A SINGLE LEGAL OFFICE REPORTING TO THE COMMISSION. THE STAFF HAS BEEN DIRECTED TO DEVELOP A REORGANIZATION PLAN FOR COMMISSION CONSIDERATION BY APRIL 15. THE PRIMARY PURPOSE OF THE ACTION IS TO BETTER REFLECT THE CHANGING WORKLOAD OF THE AGENCY AND TO REDUCE UNNECESSARY DUPLICATION OF EFFORT, THEREBY ACHIEVING A REDUCTION IN THE NUMBER OF POSITIONS NOW AUTHORIZED FOR THE TWO EXISTING OFFICES. SAVINGS SHOULD BE ACHIEVABLE THROUGH THE ELIMINATION OF DUPLICATION IN SUPPORT SERVICES (FOR EXAMPLE, ONE RATHER THAN TWO LAW LIBRARIES), AND IN SOME LEGAL REVIEWS, SUCH AS RULEMAKINGS.

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QUESTION 18. OPEN COMMISSION MEETINGS

(A) WHAT IS THE STATUS OF THE COMMISSION'S RULE
REVISING ITS FORMER GOVERNMENT IN THE SUNSHINE ACT
REGULATIONS?

ANSWER.

ON JANUARY 17, 1986, THE COMMISSION RECEIVED A BRIEFING FROM ITS
GENERAL COUNSEL ON THE SUNSHINE ACT RULE. THE BRIEFING COVERED
THE COMMENTS WHICH WERE SUBMITTED ON THE MAY 21, 1985 INTERIM
RULE, AND THE GENERAL COUNSEL'S PROPOSED REVISION OF THE RULE IN
LIGHT OF THOSE COMMENTS.

THE GENERAL COUNSEL ALSO DESCRIBED TO THE COMMISSION THE EFFORT
NOW UNDERWAY BY A TASK FORCE OF THE ADMINISTRATIVE LAW SECTION OF
THE AMERICAN BAR ASSOCIATION TO STUDY A VARIETY OF SUNSHINE ACT
ISSUES. THE TASK FORCE IS EXAMINING, AMONG OTHER THINGS, THE
SUPREME COURT'S DECISION IN THE ITI CASE AND ITS IMPLICATIONS;
THE NRC'S MAY 21 RULE AND THE GENERAL COUNSEL'S SUGGESTED
REVISIONS OF THE RULE; AND THE PROBLEM OF DIFFERENTIATING BETWEEN
THE TYPES OF DISCUSSIONS WHICH MAY LEGALLY BE HELD IN A
NON-SUNSHINE ACT CONTEXT AND THOSE WHICH BRING THE SUNSHINE ACT'S
REQUIREMENTS INTO PLAY.

IN VIEW OF THE FACT THAT TASK FORCE'S INQUIRY IS SO DIRECTLY
GERMANE TO THE COMMISSION'S CONSIDERATION OF ITS SUNSHINE ACT
RULE, AND THAT ITS SCHEDULE CALLS FOR A FINAL REPORT IN APRIL,
1986, THE COMMISSION DECIDED UNANIMOUSLY TO DEFER ACTION ON THE
SUNSHINE ACT RULE UNTIL AFTER IT HAS HAD AN OPPORTUNITY TO BE
BRIEFED ON THE TASK FORCE'S REPORT.

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QUESTION 18. OPEN COMMISSION MEETINGS

(B) WHAT BENEFITS DOES THE COMMISSION EXPECT FROM IMPLEMENTATION OF THIS RULE THAT ARE NOT PROVIDED BY THE FORMER REGULATIONS?

ANSWER.

THE NRC'S SUNSHINE ACT REGULATIONS AS ADOPTED INITIALLY, ARE PERHAPS THE MOST RESTRICTIVE OF ANY AGENCY IN GOVERNMENT, GOING WELL BEYOND THE LAW'S REQUIREMENTS. THE SUPREME COURT, IN A UNANIMOUS 1984 DECISION, FCC V. ITT WORLD COMMUNICATIONS, 104 S.Ct. 1936, EMPHASIZED THAT INFORMAL BACKGROUND DISCUSSIONS WHICH CLARIFY ISSUES AND EXPOSE VARYING VIEWS WERE AN ESSENTIAL PART OF AN AGENCY'S FUNCTIONING, AND WERE NEVER INTENDED BY CONGRESS TO FALL WITHIN THE AMBIT OF THE SUNSHINE ACT. ALSO IN 1984, THE ADMINISTRATIVE CONFERENCE, A BODY WHICH BY STATUTE HAS A SPECIAL ROLE IN THE INTERPRETATION AND IMPLEMENTATION OF THE SUNSHINE ACT, STATED IN RECOMMENDATION 84-3 THAT ONE OF THE MOST SIGNIFICANT EFFECTS OF THE SUNSHINE ACT HAD BEEN ITS DIMINUTION OF AGENCY COLLEGIALITY. THE ADMINISTRATIVE CONFERENCE RECOMMENDED THAT CONGRESS CONSIDER AMENDING THE SUNSHINE ACT TO CORRECT THIS PROBLEM.

THE COMMISSION'S PROPOSED SUNSHINE ACT RULE WAS DESIGNED TO ALLOW THE COMMISSION TO USE THE FLEXIBILITY PROVIDED UNDER EXISTING LAW TO HOLD INFORMAL BACKGROUND DISCUSSIONS THAT CLARIFY ISSUES AND EXPOSE VARYING VIEWS. IT WAS DESIGNED TO BRING THE AGENCY'S REGULATIONS INTO LINE WITH THE GUIDANCE PROVIDED BY THE SUPREME COURT, SINCE THE COURT'S DECISION MADE CLEAR THAT THE EXISTING REGULATIONS WERE UNDULY RESTRICTIVE. IT WAS DESIGNED TO HELP BUILD COLLEGIALITY IN THE COMMISSION'S DECISIONAL PROCESS, AND TO HELP PERMIT THE COMMISSIONERS TO ENGAGE IN LONG-RANGE, "BIG PICTURE" THINKING ABOUT THE AGENCY'S PRESENT AND FUTURE ROLE, AND TO HOLD "BRAINSTORMING SESSIONS" IN WHICH IDEAS ARE GENERATED.

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QUESTION 18. OPEN COMMISSION MEETINGS

(c) WHAT TYPES OF COMMISSION DISCUSSIONS WOULD BE CLOSED TO THE PUBLIC UNDER THE NEW RULE?

ANSWER.

WITH REGARD TO THE QUESTION OF WHAT TYPES OF DISCUSSIONS COULD BE HELD UNDER THE NEW RULE, AN ANSWER IS PREMATURE, SINCE WE MAY WELL OBTAIN CLARIFICATION OF THAT ISSUE FROM THE TASK FORCE OF THE ADMINISTRATIVE LAW SECTION OF THE AMERICAN BAR ASSOCIATION. IT IS WORTH NOTING, HOWEVER, THAT THE GENERAL COUNSEL HAS ADVISED US THAT AS A MATTER OF LAW, DISCUSSIONS OF THE LICENSING OF A PARTICULAR PLANT, INCLUDING DISCUSSIONS OF ANY NRC LICENSING PROCEEDING, WOULD NEVER BE APPROPRIATE FOR NON-SUNSHINE ACT DISCUSSIONS. MOREOVER, UNDER THE PROPOSAL FORWARDED TO THE COMMISSION BY THE GENERAL COUNSEL, TECHNICAL BRIEFINGS ON ISSUES OF NUCLEAR POWER PLANT SAFETY WOULD, AS A MATTER OF COMMISSION DISCRETION, BE TREATED AT ALL TIMES AS SUNSHINE ACT MEETINGS. I HAVE RECENTLY SENT A MEMORANDUM TO THE GENERAL COUNSEL ASKING HIM TO CONSIDER A LIST OF VARIOUS TYPES OF MEETINGS AND TO PROVIDE HIS VIEWS AS TO WHICH OF THEM WOULD AND WOULD NOT BRING THE SUNSHINE ACT'S REQUIREMENTS INTO PLAY.

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QUESTION 18. OPEN COMMISSION MEETINGS

(D) WHAT SAFEGUARDS HAVE BEEN ESTABLISHED TO ENSURE THAT THE PUBLIC WILL HAVE ACCESS TO ALL DISCUSSIONS TO WHICH IT IS ENTITLED UNDER THE SUNSHINE ACT?

ANSWER.

THE DECISION TO DEFER FINAL ACTION ON THE SUNSHINE ACT RULE THEREFORE CONTINUES THE STATUS QUO IN PLACE. THAT STATUS QUO, AS DESCRIBED IN CONGRESSIONAL TESTIMONY ON MAY 21, 1985, AND IN LETTERS TO CONGRESSMAN MARKEY, MOOPHEAD, DINGELL, AND BROYHILL ON JUNE 6, 1985, PROVIDES THAT UNTIL SUCH TIME AS IMPLEMENTING PROCEDURES ARE DEVELOPED, APPROVED, AND PROVIDED TO THE CONGRESS, THE COMMISSION WILL: MAINTAIN A RECORD OF ALL INFORMAL GATHERINGS NOT SUBJECT TO THE SUNSHINE ACT; KEEP THE CONGRESS AND THE PUBLIC INFORMED ON A MONTHLY BASIS OF THE NATURE OF SUCH GATHERINGS; AND RECORD AND MAKE AVAILABLE TO THE CONGRESS THE DATE, PARTICIPANTS, AND SUBJECT OF EACH SUCH DISCUSSION, TOGETHER WITH A LIST OF ANY DOCUMENTS DISCUSSED. IN ADDITION, A LAWYER WILL BE PRESENT TO ASSURE THAT ANY NON-SUNSHINE ACT DISCUSSION REMAINS WITHIN THE CONFINES OF WHAT IS PROPER.

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Udall Q18

Commissioner Asselstine Adds:

I do not support the Commission's new Sunshine rule for several reasons. First, the standard for determining whether the Commission may hold a "gathering" - whether the discussions are sufficiently focused as to cause individual commissioners to form reasonably firm positions on issues - is vague and subjective. The rule contains no explanation of this standard and no examples of what kinds of things the Commission thinks it will discuss in these gatherings. Without such guidance, there is clearly a potential for abuse, either intentional or inadvertent. And, should the Commission abuse the rule, there is no effective remedy, because for non-meetings there will be no transcript, no notice, and no minutes.

Second, I question the usefulness of holding such gatherings. If the discussions at gatherings are limited, as they should be, only to very preliminary discussions, such discussions will not be very beneficial. The Commission argues, however, that holding gatherings to discuss agency business is needed to improve the agency's efficiency and to enhance collegiality. Put simply, the argument is that individual commissioners are more comfortable in expressing their views and exchanging ideas if they can do so in private. While a preference for privacy may be understandable, it is fundamentally at odds with a purpose of the Sunshine Act -- the need to ensure the accountability of senior government officials.

Finally, in publishing and defending the Commission's new rule, the Commission has given the public the impression that it would rather do business behind closed doors and off-the-record. This impression can only adversely affect public confidence in the workings of this agency. Instead of limiting public access to the Commission's decisionmaking process, the Commission should be increasing public participation. That is the only way to restore and maintain public confidence.

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QUESTION 19.

BUILDING CONSOLIDATION

WHAT IS THE STATUS OF EFFORTS TO ACHIEVE BUILDING CONSOLIDATION? IN THE EVENT THE NRC'S OFFICES ARE CONSOLIDATED OUTSIDE OF THE DISTRICT OF COLUMBIA, WILL THE COMMISSION MAINTAIN A PUBLIC DOCUMENT ROOM WITHIN THE DISTRICT OF COLUMBIA?

ANSWER.

OF CONTINUING INTEREST TO THE COMMISSION AND TO YOUR COMMITTEE IS THE MATTER OF NRC BUILDING CONSOLIDATION. AS YOU KNOW, THE NRC STAFF HAS BEEN HOUSED IN TEN BUILDINGS IN ROCKVILLE, BETHESDA, SILVER SPRING, AND THE DISTRICT. WE FINALLY HAVE THE GLIMMER OF HOPE THAT CONSOLIDATION PLANS ARE IN THE OFFING.

RECENTLY GSA HAS SUBMITTED FOR OMB APPROVAL A PLAN FOR NRC CONSOLIDATION WITH POSSIBLE OPTIONS. GSA DESIRES THAT THE DETAILS NOT BE DISCUSSED IN PUBLIC AT THE PRESENT TIME TO PERMIT THEM FLEXIBILITY IN NEGOTIATIONS ON VARIOUS APPROACHES.

WE APPRECIATE THE COMMITTEE'S CONTINUED SUPPORT IN OUR QUEST TO CONSOLIDATE AND HOPE OUR EFFORTS WILL BEAR FRUIT.

THE COMMISSION DESIRES TO MOVE THE PDR TO THE CONSOLIDATED SITE WITH OTHER ELEMENTS OF THE COMMISSION BECAUSE IT BELIEVES THAT THE PDR CAN PROVIDE THE BEST SERVICE TO THE PUBLIC FROM THAT LOCATION.

AT THIS STAGE OF PLANNING FOR THE CONSOLIDATION OF NRC ELEMENTS, THERE IS INSUFFICIENT SPACE INITIALLY TO ACCOMMODATE THE PDR IN ADDITION TO THE OPERATIONAL AND NECESSARY SUPPORT UNITS OF THE AGENCY. UNDER THESE CIRCUMSTANCES IT IS THE INTENTION OF THE COMMISSION TO LEAVE THE PDR IN WASHINGTON, D. C.

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**COMMITTEE ON INTERIOR
AND INSULAR AFFAIRS**

U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515

February 18, 1986

[illegible]

STANLEY GIBBELL
STAFF DIRECTOR
AND COUNCIL

DEPT JONES
ASSOCIATE STAFF DIRECTOR
AND SENIOR

LEE DODD VON
STANDARD CHARTERED

RICHARD AGNEW
CHIEF MINORITY COUNCIL

The Honorable Munzio Palladino
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Chairman:

On behalf of the Subcommittee on Energy and the Environment, let me thank the Commission for its participation in the February 6, 1986 hearing on the NRC's budget request for fiscal year 1987.

To further assist the Subcommittee in fulfilling its oversight responsibility for the NRC, I would appreciate the Commission's response to the follow-up questions attached to this letter. The Subcommittee also welcomes the separate views of individual commissioners.

I appreciate your attention to these matters.

Sincerely,

M. K. Udall
MORRIS K. UDALL
Chairman

Attachment

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POST-HEARING QUESTIONS ON NRC FY-87 BUDGET REQUEST

1. Budget Reductions

Please identify for the record specific NRC programs whose funding could be reduced or eliminated if necessary to meet prospective budget-reduction requirements. Which NRC programs should be protected from future budget cuts?

2. Research Program

- a. Please identify all NRC research projects that overlap or duplicate research conducted by the Department of Energy's nuclear research program.
- b. Which specific research projects can be terminated or postponed without endangering public safety? Please submit for the record.
- c. Why should the NRC not pass on its costs of the research program to the nuclear industry?

3. TVA

- a. What specific issues do the NRC staff believe require resolution prior to restart of Browns Ferry Units 1, 2 and 3, Sequoyah Units 1 and 2, and licensing of Watts Bar Units 1 and 2?
- b. In answer to Prehearing Question 9 you state that included among NRC activities devoted to TVA were Systematic Assessments of Licensee Performance (SALP's). Please summarize the most recent SALP findings at Browns Ferry, Sequoyah, Watts Barr, and Bellefonte? Did the findings at Sequoyah and Watts Barr accurately reflect what now appears to have been the actual conditions at these plants?

4. "Nuclear Powerplant Security and Anti-terrorism" Bill

- a. The Commission has previously expressed its support for the "Nuclear Powerplant Security and Anti-Terrorism" bill, which would require nuclear utilities to fingerprint all persons allowed unescorted access to their facilities and to submit such fingerprints to the FBI for a criminal history records check. We have some concerns about whether this bill would accomplish its intended purpose and about its impact on the civil liberties of plant employees. Of the actual incidents of attempted or successful sabotage, how many might have been averted had this measure been in effect? Would the

bill, in fact, significantly improve security at nuclear power plants?

- b. Please enumerate specific examples of information in criminal history records that would be passed on to utilities and which of these could be used by utilities in their personnel decisions.
- c. What safeguards does the bill provide or could be established to prevent infringement of civil liberties?

5. High-Level Waste Repository

What is the Commission's position on whether the Department should defer repository site characterization activities until the NRC has issued its assessment of DOE's site characterization plans? Has DOE acceded to this view?

6. Organizational Changes

What specific organizational changes would be needed to strengthen the authority of the NRC Chairman while preserving the benefits of the collegial structure? Would the Commission favor legislation that simultaneously (a) converted the NRC to an agency directed by a single administrator and (b) established a Nuclear Safety Board along the lines of the National Transportation Safety Board?

7. Inspector General

What is the Commission's position with respect to establishment of an independent Inspector General to replace the Office of Inspector and Auditor?

8. Emergency Planning

Do you believe that the Commission's emergency planning requirements can be satisfied in situations where state and local governments do not participate in the development and testing of the plans? What precisely do you expect to gain from the February 13 test of LILCO's emergency plan for Shoreham?

TO: Chairman Palladino, Nuclear Regulatory Commission
FROM: Representative Cajdenson
RE: NRC FY 87 Budget
2/6/86

1. Has NRC regulatory research ever directly caused more stringent safety regulations to be implemented? Has this research been cost-effective? Please give specific examples.
2. According to critics of the NRC, most of the regulatory research conducted is devoted toward justifying less stringent regulation. If this is true why can't industry pay for this research?
3. Would there be a significant effect on nuclear plant safety if the NRC regulatory research program was eliminated?
4. Why does the FY 87 Budget Request propose increasing the budget for the Advisory Committee on Reactor Safeguards from \$250,000 to \$320,000?
5. Why does the FY 87 Budget Request propose increasing the budget for the Office of the Secretary from \$230,000 to \$350,000?
6. Why does the FY 87 Budget Request propose increasing the budget for the Commissioners and Staff from \$40,000 to \$100,000?
7. Why does the FY 87 Budget Request propose increasing the budget for the Office of Policy Evaluation from \$25,000 to \$60,000?

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QUESTIONS ON NRC BUDGET
TO CHAIRMAN PALLADINO FROM REP. BEVERLY BYRON

Chairman Palladino, you haven't been before the subcommittee since it was announced that you'd be leaving the Commission in June. So please accept my belated thanks to you for all your services as the NRC's longest-sitting chairman.

Drawing on your experience, can you tell me whether you think there will ever be changes in emergency planning regulations to conform to new source-term research? I see that funds for general research has made up the largest part of your budget, yet there seems to be quite a delay in seriously considering possible changes in the regulation of source-term.

It seems quite possible that we could be operating with an unnecessarily burdensome regulation for 10-mile emergency planning zones. I know that Baltimore, Gas, and Electric (BG&E) has made a formal request that the plume exposure pathway emergency planning zone (EPZ) be redefined as the area within a radius of two miles from the plant instead of the generally required radius of about ten miles. I believe that BG&E has provided the appropriate technical information to enable the Commission to immediately consider BG&E's request. I must urge you, as Chairman of the Commission, to provide BG&E with its "due process" by examining their data against your source term data and make a timely decision. Can you give me a complete status report of the Commission's consideration of BG&E's request, including some sort of timetable on when this decision can be reached? If further information is needed, please provide me with exactly what it is.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 10, 1986

The Honorable Morris K. Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Attached are the Nuclear Regulatory Commission's responses to
questions raised in your February 18, 1986 letter concerning the
NRC's budget request for fiscal year 1987.

Sincerely,

A handwritten signature in cursive script, reading "Carlton Kanmerer", is written over the typed name.

Carlton Kanmerer, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: Rep. Manuel Lujan

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QUESTION 1: PLEASE IDENTIFY FOR THE RECORD SPECIFIC NRC PROGRAMS WHOSE FUNDING COULD BE REDUCED OR ELIMINATED IF NECESSARY TO MEET PROSPECTIVE BUDGET-REDUCTION REQUIREMENTS. WHICH NRC PROGRAMS SHOULD BE PROTECTED FROM FUTURE BUDGET CUTS?

ANSWER

THE COMMISSION FULLY INTENDS TO FULFILL ITS MANDATE TO ASSURE PUBLIC HEALTH AND SAFETY. TO DO SO NECESSITATES THAT THE HIGHEST PRIORITY CONTINUE TO BE ALLOCATED TO ASSURING THE SAFETY OF OPERATING REACTORS FOLLOWED BY THOSE SPECIFIC PROGRAMS REQUIRED BY LAW. WE HAVE NOT, HOWEVER, ESTABLISHED WHAT DEGREE OF REDUCTIONS CAN BE ACCOMMODATED WITHOUT A SIGNIFICANT EFFECT ON PUBLIC HEALTH AND SAFETY.

WITH FURTHER BUDGET REDUCTIONS, OUR CAPABILITY TO RESPOND TO AND RESOLVE ISSUES FROM UNPLANNED EVENTS SUCH AS THOSE AT DAVIS-BESSE, SAN ONOFRE, RANCHO SECO, TVA, AND KERR-MCGEE IN A COMPREHENSIVE AND TIMELY MANNER WILL BE DIMINISHED. ALSO, THE NRC RESEARCH PROGRAM WOULD BE SERIOUSLY IMPAIRED. FORWARD-LOOKING PROGRAMS NECESSARY TO MEET FUTURE ISSUES AND CHALLENGES WILL BE CANDIDATES FOR ELIMINATION.

THE NRC IS CONTINUALLY STRIVING TO ACHIEVE GREATER ECONOMIES IN OPERATION IN ORDER TO MAKE BETTER USE OF LIMITED RESOURCES. FOR EXAMPLE, THE OFFICE OF NUCLEAR REACTOR REGULATION HAS BEEN REORGANIZED TO DEAL MORE EFFECTIVELY WITH OVERSIGHT OF OPERATING REACTORS. THE COMMISSION HAS INITIATED EFFORTS TO CONSOLIDATE ITS TWO LEGAL OFFICES, ELD AND OGC, IN ORDER TO ENHANCE THE EFFICIENCY OF ITS LEGAL SERVICES AND ELIMINATE ANY UNNECESSARY DUPLICATION OF PERSONNEL AND LEGAL FACILITIES. THE COMMISSION HAS ALSO DECIDED THAT THE OFFICE OF POLICY EVALUATION (OPE) SHOULD BE ELIMINATED, EFFECTIVE AT THE END OF FY 1986. BEGINNING IN FY 1987, THE COMMISSION WILL RELY UPON THE STAFF FOR ASSISTANCE IN MATTERS PREVIOUSLY ASSIGNED TO OPE.

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QUESTION 2: (A) PLEASE IDENTIFY ALL NRC RESEARCH PROJECTS THAT OVERLAP OR DUPLICATE RESEARCH CONDUCTED BY THE DEPARTMENT OF ENERGY'S NUCLEAR RESEARCH PROGRAM.

ANSWER

WE ARE NOT AWARE OF ANY NRC RESEARCH PROJECTS WHICH OVERLAP OR DUPLICATE RESEARCH CONDUCTED BY DOE. THE NRC MAINTAINS CLOSE COMMUNICATION WITH THE DOE TO ASSURE THAT OUR PROGRAMS ARE NOT DUPLICATIVE. THIS COMMUNICATION OCCURS IN THE FORM OF COORDINATING MEETINGS AND EXCHANGE OF PROGRAM INFORMATION ON AREAS OF JOINT INTEREST. SPECIFICALLY, THERE IS A DOE-NRC COORDINATING COMMITTEE THAT MEETS REGULARLY DURING THE YEAR AND RESEARCH TOPICS ARE AMONG THOSE DISCUSSED AT THE MEETINGS. ALSO, DOE AND NRC BOTH HAVE STAFF WHOSE DUTIES INVOLVE COORDINATION OF RESEARCH. FURTHERMORE, EVERY YEAR NRC CONDUCTS A WATER REACTOR SAFETY RESEARCH INFORMATION MEETING IN WHICH ALL NRC AND SOME DOE RESEARCH RESULTS ARE PRESENTED. FINALLY, THE NRC MAKES SUBSTANTIAL USE OF THE DOE NATIONAL LABORATORIES IN FULFILLING ITS RESEARCH NEEDS, AND THE LABORATORY MANAGEMENT PLAYS A ROLE IN THE ONGOING EXCHANGE OF INFORMATION BETWEEN THE DOE AND NRC ON RESEARCH PROGRAMS.

DOE AND NRC DO CONDUCT SOME RESEARCH THAT IS COMPLEMENTARY. TWO AREAS IN WHICH THE NRC AND DOE HAVE SUCCESSFULLY CONDUCTED COMPLEMENTARY RESEARCH ARE THE ANALYSIS OF FISSION PRODUCT TEST DATA FROM THE LOFT PROGRAM AND THE EPRI-SPONSORED TRANSIENT

QUESTION 2A

REACTOR TEST FACILITY. WHILE THE PARTIES PARTICIPATING HAD DIFFERENT RESEARCH OBJECTIVES, THESE COORDINATED RESEARCH PROGRAMS, IN WHICH THE NRC PARTICIPATED AS A NON-PAYING MEMBER, WERE ABLE TO SATISFY THE NEEDS OF ALL PARTICIPANTS.

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QUESTION 2: (B) WHICH SPECIFIC RESEARCH PROJECTS CAN BE
TERMINATED OR POSTPONED WITHOUT ENDANGERING
PUBLIC SAFETY? PLEASE SUBMIT FOR THE RECORD.

ANSWER

THERE ARE NO SPECIFIC RESEARCH PROJECTS WHICH CAN BE TERMINATED OR
POSTPONED WITHOUT SOME IMPACT ON PUBLIC SAFETY. BUT THERE ARE
SOME WHICH CAN BE POSTPONED WITHOUT ENDANGERING PUBLIC SAFETY.
ATTACHED ARE MEMORANDA SHOWING THE REDUCTIONS FOR RESEARCH
PROGRAMS AND THOSE OF THE OTHER OFFICES AS A RESULT OF THE OMB
MARK FOR FISCAL YEAR 1987.

THE NRC CONDUCTS RESEARCH ONLY IN AREAS WHERE PROBLEMS CAN
REASONABLY BE EXPECTED TO OCCUR. WHEN SUCH A POTENTIAL SAFETY
PROBLEM IS IDENTIFIED, THE AGENCY THEN DESIGNS AND CONDUCTS A
RESEARCH PROGRAM TO DEVELOP A DETAILED UNDERSTANDING OF WHETHER
THERE IS, IN FACT, A PROBLEM, WHAT THE MAGNITUDE AND SEVERITY OF
THIS PROBLEM IS, AND WHAT REGULATORY MEASURES CAN BE TAKEN TO
ASSURE PUBLIC SAFETY. SOMETIMES, THE RESEARCH CONFIRMS THE
PROBLEM. OTHER TIMES, THE RESEARCH DEMONSTRATES THAT THE EARLY
INDICATIONS WERE INCORRECT AND THAT THERE IS NOT A SAFETY PROBLEM.
HOWEVER, SUCH A CONCLUSION COULD NOT HAVE BEEN MADE IN ADVANCE OF
PERFORMING THE RESEARCH. HOWEVER, WE MAY NOT TERMINATE THE
RESEARCH WHEN THERE MAY BE A SAFETY POSITION THAT IS OVERLY
CONSERVATIVE.

NRC COULD NOT ISSUE A LICENSE IF IT THOUGHT THAT PUBLIC SAFETY
WOULD BE ENDANGERED BY DOING SO. OPERATING EXPERIENCE OR
PRELIMINARY RESEARCH MAY LATER IDENTIFY A POTENTIAL FOR A HEALTH
AND SAFETY PROBLEM, AND A CONSEQUENT NEED FOR NRC RESEARCH.

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December 19, 1985

MEMORANDUM FOR: Chairman Palladino

FORM: William J. Dircks
Executive Director for Operations

SUBJECT: FY 1987 BUDGET ESTIMATES - OMB MARK

As a result of your recent discussions with OMB, OMB has added \$55 million and 122 FTEs to their original FY 1987 budget passback. This results in a final FY 1987 OMB Mark for NRC of \$405 million and 3,369 FTEs. This mark is \$73 million and 122 FTEs below the Commission's FY 1987 budget request and \$25.3 million and 122 FTEs below NRC's FY 1986 current estimate.

The FY 1987 funding and staffing estimates have been revised to reflect the initial allocation of the OMB Mark and are summarized in Attachments 1 and 2. A preliminary assessment of the impact of the OMB reductions to the agency's major programs is also included in Attachment 1. I will provide a more detailed assessment of these reductions in early January.

(Signed) Jack T. Zee

William J. Dircks
Executive Director
for Operations

Attachments:
As stated

cc: Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech
Office Directors
Regional Administrators

Distribution:
WJDircks
JWRce
VStello
TRem
EDO r/f
DEDO r/f
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U.S. NUCLEAR REGULATORY COMMISSION
FY 1987 BUDGET ESTIMATES - OMB MARK
(Dollars in Millions)

ATTACHMENT 1

	FY 1986 Current Estimate	NRC Request	FY 1987 Allocation of OMB Mark	Change from Request	
(FTE's)	(2,491)	(3,491)	(3,369)	(-122)	
<u>TOTAL FUNDING</u>	<u>\$431.3^{1/}</u>	<u>\$478.0</u>	<u>\$405.0</u>	<u>-\$73.0</u>	
Salaries & Benefits	171.5	175.5	168.4	-7.1	*Consistent with 122 FTE reduction
Travel	9.5	11.0	9.5	-1.5	*Hold at FY86 level
Administrative Support	60.1	69.9	60.0	-9.9	*Reduce costs associated with lower staff levels *No relocation service *No telecom modernization *Reduction of guard services *Reduce PCS operations and no IPHR 24X-microfiche program *Delays in CDN development
<u>PROGRAM SUPPORT</u>	<u>190.2</u>	<u>221.6</u>	<u>167.1</u>	<u>-54.5</u>	
NRR	30.9	35.7	28.1	-7.6	*Do not continue ISAP Program *Cut by one-half review of licensee PRA's *Reduce general safety studies *Eliminate contractor support for review of advanced reactor concepts *Reduce code analysis/maintenance and improvements to risk assessment methodologies

^{1/} Includes the \$418 million appropriation and \$13.3 million in unobligated carryover (includes \$2.3 million commitments from FY 1985).

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	FY 1986 Current Estimate	NRC Request	FY 1987 Allocation of OMB Mark	Change from Request	
E	17.8	19.1	16.6	-2.5	*Delay upgrade to incident response program *Reduce EP/IRF contractor support *Reduce vendor inspection support *Reduce capability by one-half for problem plant support
HSS	16.4	18.6	15.2	-3.4	*Reduce OR regulatory policy development and guidance *Delay improvements to NPMSS and IMS systems *Reduced material contamination event response *Delay improvements to transportation codes *Delay review of advanced fuel fabrication pilot plant and fuel facility environmental assessments *Delay development of improved safeguards regulatory guidance *Delay LLW remedial action program *Delay evaluation of alternative LLW disposal technologies
ES	118.4	126.6	98.5	-28.1	*Terminate health, occupational protection and human reliability programs *Reduce by one-half PRA application and regulatory analysis activities *Terminate NRU fuel experiments and reduce severe accident analysis *Eliminate either the HST experiments or thermal/hydraulic integral facility *Hold IHM research to FY86 level *Reduced separate effects and plant analyzer efforts *Reduced reactor pressure vessel and HDE fracture mechanics research *Terminate ACRH fuel studies and

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	<u>FY 1986</u> <u>Current</u> <u>Estimate</u>	<u>HRC</u> <u>Request</u>	<u>FY 1987</u> <u>Allocation</u> <u>of OMB Mark</u>	<u>Change from</u> <u>Request</u>	
PTS	4.8	7.6	6.9	-0.7	*Reduced reliability data program
PDA	1.9	2.0	1.8	-0.2	*Reduced cost analysis support
PBF	0	12.0	0	-12.0	*OMB to transfer deactivation responsibility to DOE

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ATTACHMENT 2

U.S. NUCLEAR REGULATORY COMMISSION
FY 1987 BUDGET ESTIMATES - OMB MARK
(FTE's)

Program	FY 1986 Current Estimate	FY 1987			
		NRC Request	Allocation of OMB Mark	Change from Request	
<u>TOTAL</u>	<u>3,491</u>	<u>3,491</u>	<u>3,369</u>	<u>-122</u>	
NRR	716	705	683	-22	*ISAP Program *General
IE	1,140	1,147	1,137	-10	*EP, vendor and incident response
HWSS	370	370	360	-10	*Fuel Cycle, Safeguards, Low-Level Waste and Uranium Recovery
RES	207	205	180	-25	*Technical program reduction
EDO	733	747	717	-30	
COM	325	317	292	-25	

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NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

Attachment 2

January 9, 1985

MEMORANDUM FOR: Chairman Palladino

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: REVISED BUDGET ESTIMATES

Attached are the revised FY 1985 and FY 1986 budget estimates which reflect final OMB action on resource levels for the Nuclear Regulatory Commission. In FY 1985, the Office of Management and Budget reduced our budget by \$4.3 million in accordance with Section 2901 of the Deficit Reduction Act and directed the NRC to absorb the full impact of the January 1985 pay raise, estimated at \$5.6 million. In FY 1986, the President's budget request for the NRC will total \$429 million and reflect a staffing level of 3,491 FTE's, the same personnel level as in FY 1985.

The revised funding and staffing estimates* are summarized in Attachments 1 and 2 which reflect our recent discussions. These estimates will be used in preparation of the FY 1986 President's budget (NRC Green Book) and include planning estimates for FY 1987 in accordance with biennial authorization procedures. The proposed FY 1987 planning estimates hold the agency at the same funding and staffing levels as in FY 1986 and shift some resources from reactor licensing to inspection. The impact of the OMB FY 1986 reduction to the agency's major programs and administrative support is described in Attachment 3. The OMB authorized FY 1985 and FY 1986 funding and staffing levels will severely constrain our ability to improve the regulatory process and accommodate any critical unplanned requirements. These resource levels are such that we can no longer stretch out and reduce effort on desired program initiatives but must eliminate those which are of low priority in support of our responsibilities to protect the public health and safety.

Consistent with the current schedule for submission of the President's budget to Congress on February 4, 1985, the NRC Green Book will be submitted to the

*It is my understanding that you will provide further details and comments on staffing to the Commissioners. I will be providing my comments on this matter in a separate memorandum. In the meantime, I would hope that the tables we submit in our Congressional budget submission will continue to support the 3,491 FTE staffing level.

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Chairman Palladino

Commission for review by January 21, 1985. The Green Book must be provided to OMB for review by January 28, and submitted to the Congress on February 4. Your comments on the attached are requested by January 11, 1985, to finalize preparation of the Green Book.

(Signed) William J. Dircks

William J. Dircks
Executive Director for Operations

Attachments:

1. Funding Summary
2. FTE Summary
3. Program Impacts

cc w/attachments:

Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech
V. Stello, Jr., DEDROGR
Office Directors
Regional Administrators

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U. S. NUCLEAR REGULATORY COMMISSION
FY 1986 PRESIDENT'S BUDGET
(DOLLARS IN MILLIONS)

	FY 1985 CURRENT ESTIMATE	NRC REQUEST	FY 1986 ALLOCATION OF OMB MARK	CHANGE FROM CHANGE	NRC REQUEST	FY 1987 ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
(FTE's)	(3,491)	(3,731)	(3,491)	(- 240)	(3,717)	(3,491)	(-226)
SALARIES & BENEFITS	\$170.5	\$180.0	\$164.0	-\$ 16.0	\$179.3	\$164.0	-\$15.3
TRAVEL	10.0	12.0	10.0	- 2.0	12.0	10.0	- 2.0
ADMINISTRATIVE SUPPORT	56.8	69.9	60.0	- 9.9	68.3	60.0	- 8.3
PROGRAM SUPPORT:							
- NRR	35.0	44.8	30.0	- 14.8	41.1	29.0	-12.1
- IE	19.4	27.3	19.0	- 8.3	27.4	20.0	- 7.4
- NMSS	17.4	21.0	17.0	- 4.0	20.2	17.0	- 3.2
- NES	133.2	166.9	122.0	- 44.9	163.2	122.0	-41.2
- PTS	5.6	5.6	5.0	- 0.6	5.6	5.0	- 0.6
- PMA	<u>1.2</u>	<u>2.3</u>	<u>2.0</u>	<u>- 0.3</u>	<u>2.3</u>	<u>2.0</u>	<u>- 0.3</u>
TOTAL	\$449.6 ^{1/}	\$529.8	\$429.0	-\$100.8	\$519.4	\$429.0	-\$90.4

^{1/} 1985 APPROPRIATION (\$448.2) + UNOBLIGATED CARRYOVER (\$5.7) - DEFICIT REDUCTION (\$4.3)

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U. S. NUCLEAR REGULATORY COMMISSION
FY 1986 PRESIDENT'S BUDGET
(FIE's)

PROGRAM	FY 1985 CURRENT ESTIMATE	FY 1986			FY 1987		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST	NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
NRR	718	783	718	- 65	795	706	- 89
IE	1,006	1,194	1,132	- 62	1,168	1,148	- 20
NPSS	350	395	370	- 25	397	370	- 27
RES	230	242	218	- 24	242	214	- 28
PTS	365	372	347	- 25	366	347	- 19
PDA	732	745	706	- 39	749	706	- 43
TOTAL	3,491	3,731	3,491	- 240	3,717	3,491	-226

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ATTACHMENT 2

FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS, PERSONNEL IN FTE'S)

<u>NUCLEAR REACTOR REGULATION</u>	<u>FY 1985 CURRENT ESTIMATE</u>	<u>NRC REQUEST</u>	<u>FY 1986 ALLOCATION OF OMB MARK</u>	<u>CHANGE FROM REQUEST</u>
PROGRAM SUPPORT \$	\$35.0	\$44.8	\$30.0	-\$14.8
(FTE)	(718)	(783)	(718)	(- 65)

ACTIVITIES MAINTAINED WITH OMB MARK

- MAINTAIN OPERATING REACTOR PROGRAM , BUT DELAY COMPLETION OF ABOUT 250 LOW PRIORITY LICENSEE REQUESTED AMENDMENTS.
- ADMINISTER INITIAL, REPLACEMENT AND REQUALIFICATION EXAMINATIONS TO REACTOR OPERATORS.
- PERFORM ALL ROUTINE AND DIRECT ACTIVITIES RELATED TO OPERATING LICENSE (OL) REVIEWS IN ACCORDANCE WITH SCHEDULES IN THE REVILL REPORT; REVIEW STANDARD PLANT DESIGNS.
- CONTINUE TO RESOLVE USI'S AND HIGH PRIORITY GSI'S. APPLY ABOUT 50% OF PLANNED EFFORT ON HIGH PRIORITY HUMAN FACTORS ISSUES. CONTINUE TO PRIORITIZE POTENTIAL GENERIC ISSUES.
- IMPLEMENT SEVERE ACCIDENT POLICY STATEMENT BEING REVIEWED BY COMMISSION, REGULATORY CHANGES WHICH MIGHT RESULT FROM REASSESSMENT OF RADIOACTIVE SOURCE TERMS, AND SAFETY GOALS.
- MAINTAIN ONLY ON-SITE TMI-2 CLEANUP ACTIVITIES.

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ATTACHMENT 3

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NUCLEAR REACTOR REGULATION
ACTIVITIES IMPACTED BY OMB MARK

- ✓ • DO NOT IMPLEMENT PILOT INTEGRATED SAFETY ASSESSMENT PROGRAM (ISAP)
- ✓ • DO NOT PLAN TO RESTART REVIEW OL APPLICATIONS FOR PLANTS THAT HAVE BEEN DEFERRED.
- ✓ • DO NOT RESOLVE MEDIUM PRIORITY GENERIC SAFETY ISSUES, INCLUDING MEDIUM PRIORITY ISSUES RESULTING FROM THE TMI ACCIDENT.
- DO NOT RESOLVE MEDIUM PRIORITY HUMAN FACTORS ISSUES, INCLUDING ISSUES RESULTING FROM THE TMI ACCIDENT.
- ✓ • DO NOT DEVELOP CRITERIA AND INTERACT WITH INDUSTRY REGARDING THE REVIEW OF POTENTIAL ADVANCED REACTOR DESIGNS.
- ELIMINATE HEADQUARTERS TMI PROGRAM OFFICE.
- DELAY REVIEW AND IMPLEMENTATION OF APPROXIMATELY 250 OPERATING REACTOR LICENSING ACTIONS.

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FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS, PERSONNEL IN FTE'S)

<u>INSPECTION & ENFORCEMENT</u>	<u>FY 1985 CURRENT ESTIMATE</u>	<u>NRC REQUEST</u>	<u>FY 1986 ALLOCATION OF OMR MARK</u>	<u>CHANGE FROM REQUEST</u>
PROGRAM SUPPORT \$	\$19.4	\$27.3	\$19.0	-\$8.3
(FTE)	(1,096)	(1,194)	(1,132) ✓	(-62)

11-12

ACTIVITIES MAINTAINED WITH OMR MARK

- * CONDUCT REGION BASED INSPECTION PROGRAM AT FY 1985 LEVELS AT POWER REACTORS UNDER CONSTRUCTION, IN PRE-OPERATIONAL TESTING, AND AT OPERATING PLANTS.
- * CONDUCT REGION BASED INSPECTIONS WITH MODEST SPECIALIZED TECHNICAL CONTRACT SUPPORT AT REACTORS IN OUTAGE.
- * CONDUCT RESIDENT INSPECTION PROGRAM AT REACTORS IN OPERATION WITH SINGLE UNIT OPERATING SITES (1 PER SITE) AND MULTI-UNIT SITES (2 PER SITE) AT FY 1985 LEVELS.
- * PROVIDE SECOND RESIDENT INSPECTOR AT CONSTRUCTION SITES AND AT REACTORS UNDERGOING PREOPERATIONAL TESTING.
- * CONDUCT 4 CONSTRUCTION APPRAISAL TEAM INSPECTIONS AND 3 PERFORMANCE APPRAISAL TEAM INSPECTIONS.
- * CONDUCT INSPECTION PROGRAM AT FY 1985 LEVEL AT NON-POWER REACTORS.
- * CONDUCT 3 INTEGRATED DESIGN INSPECTIONS.
- * REVIEW 3 INTEGRATED DESIGN VERIFICATION PROGRAMS.
- * CONDUCT QUALITY ASSURANCE LICENSING REVIEWS OF REACTORS AND PURSUE QA INITIATIVES FOR OPERATING REACTORS AND REACTORS IN CONSTRUCTION.
- * CONDUCT VENDOR INSPECTIONS WITH LIMITED TECHNICAL ASSISTANCE.

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SPECTION & ENFORCEMENT
ACTIVITIES MAINTAINED WITH OMB MARK (CONTINUED)

- EVALUATE LICENSEE EVENTS AND IDENTIFY GENERIC ISSUES.
- MAINTAIN AND OPERATE NRC OPERATIONS CENTER.
- PROVIDE TECHNICAL ASSISTANCE FOR ALLEGATIONS.
- CONDUCT SALP REVIEWS FOR ALL REACTORS.
- CONDUCT FUEL FACILITIES INSPECTIONS AND MATERIAL INSPECTIONS AT FY 1985 LEVEL.
- DEVELOP AND CONDUCT SPECIALIZED TECHNICAL TRAINING FOR INSPECTORS AND OTHER NRC TECHNICAL PERSONNEL.

ACTIVITIES IMPACTED BY OMB MARK

- PROVIDE REDUCED SUPPORT TO INVESTIGATIONS (80% OF PLANNED).
- X • ELIMINATE ALL QUALITY ASSURANCE INITIATIVES FOR FUTURE REACTOR PLANTS.
- / • NO RESOURCES TO ASSIGN A SECOND RESIDENT INSPECTOR AT SINGLE REACTOR OPERATING SITES.
- REDUCE REGION-BASED OPERATING REACTOR INSPECTIONS IN SUCH AREAS AS MAINTENANCE, SURVEILLANCE, QUALITY ASSURANCE, FIRE PROTECTION, PHYSICAL SECURITY, RADIOLOGICAL SAFETY, AND EMERGENCY PREPAREDNESS.
- REDUCE TECHNICAL ASSISTANCE FOR VENDOR INSPECTIONS IN THE AREAS OF METALLURGY, WELDING, NDE, DESIGN, ASME CODE AND COMPONENTS.
- DELAY INSPECTIONS OF EMERGENCY RESPONSE FACILITIES.
- X • REDUCE INSPECTION SUPPORT TO INVESTIGATIONS, ALLEGATION FOLLOWUP, AND PROBLEM FACILITIES.
- REDUCE PERIODIC AERIAL RADIOLOGICAL MEASUREMENT SURVEYS.
- REDUCE AND DELAY VERIFICATION OF LICENSEE ENVIRONMENTAL SAMPLES.
- DELAY DEVELOPMENT OF EMERGENCY RESPONSE DATA SYSTEM.
- ELIMINATE DEVELOPMENT OF IMPROVED DOSE ASSESSMENT SYSTEM.
- X • REDUCE EFFORTS TO APPLY PRA TO THE INSPECTION PROGRAM.

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FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS, PERSONNEL IN FTE'S)

	FY 1985 CURRENT ESTIMATE	NRC REQUEST	FY 1986 ALLOCATION OF OMR MARK	CHANGE FROM REQUEST
NUCLEAR MATERIALS SAFETY & SAFEGUARDS				
PROGRAM SUPPORT \$	\$17.4	\$21.0	\$17.0	-\$4.0
(FTE)	(350)	(395)	(370)	(-25)

ACTIVITIES MAINTAINED WITH OMR MARK

- * PERFORM LICENSING CASEWORK -- WITH GROWING BACKLOG IN NUCLEAR MATERIALS AND SAFEGUARDS.
 - * MAINTAIN CURRENT SCHEDULES ON SAFEGUARDS EFFECTIVENESS REVIEWS OF 18 REVIEWS PER YEAR -- DESIRED ACCELERATION NOT POSSIBLE.
 - * MAINTAIN OVERVIEW OF DOE WEST VALLEY WASTE DEMONSTRATION ACTIVITIES AT ADEQUATE LEVEL.
 - * REVIEW OF REMEDIAL ACTIONS OF CONTAMINATED SITES.
 - * PARTICIPATION IN US/IAEA SAFEGUARDS PROGRAM.
 - * REVIEW OF ONE APPLICATION FOR LLW DISPOSAL SITE.
 - * REVIEW OF DOE MILL TAILINGS REMEDIAL ACTION PLANS.
 - * PROVIDE TECHNICAL ASSISTANCE TO AGREEMENT STATES.
 - * NMPA ACTIVITIES - SUPPORTED BELOW OPTIMUM LEVEL.
- PREAPPLICATION CONSULTATION AT DOE SITES
 - DEVELOPMENT OF NRC LICENSING ASSESSMENT CAPABILITIES
 - ANALYSIS OF DOE SITE CHARACTERIZATION PLANS
 - PRE-LICENSING GUIDANCE TO DOE FOR MRS PROPOSAL
 - CONSULTATION WITH DOE ON TRANSPORTATION ISSUES
 - DEVELOPMENT OF REQUIREMENTS FOR GENERIC LICENSING OF DRY CASK STORAGE
 - DEVELOPMENT OF CRITERIA FOR TRANSFERRING FORMERLY LICENSED SITES TO DOE

NUCLEAR MATERIALS SAFETY & SAFEGUARDS
ACTIVITIES IMPACTED BY OHM HARK

- ^ * LIKELY DELAY DOE'S INITIATION OF SHAFT CONSTRUCTION AND AT-DEPTH SITE CHARACTERIZATION WORK. (2-6 MONTHS DELAY)
 - RESULT IN DELAY OF SUBMISSION OF LICENSE APPLICATION
- / * ALL BUT ELIMINATES OUR OVERVIEW OF DOE'S CRYSTALLINE PROGRAM AND EARLY REVIEW OF DOE'S SITE SCREENING DOCUMENTS.
- * DELAYS ILM RULEMAKING SCHEDULE (PART 60). (3-6 MONTHS DELAY)
- ^ * DELAYS DEVELOPMENT OF NRC LICENSING GUIDANCE FOR DOE'S REPOSITORY PROGRAM. (4-6 MONTHS DELAY)
 - * ELIMINATES ACCELERATION OF SAFEGUARDS EFFECTIVENESS REVIEWS BY 8 PER YEAR.
 - * REDUCES RESPONSE TO MATERIALS OPERATING EVENTS.
- ^ * DELAYS REVISION OF NRC RULES TO CONFORM TO EPA STANDARDS (PART 40). (4-6 MONTHS DELAY)
- * REDUCES TO MINIMUM LEVEL EFFORT TO RESOLVE DIFFERENCES WITH EPA - MILL TAILINGS) LOW LEVEL WASTE; HIGH LEVEL WASTE.
- * ELIMINATES IMPROVEMENT IN SPECIAL NUCLEAR MATERIAL TRACKING SYSTEM.
- * ELIMINATES REDUCTION IN GROWING NUCLEAR MATERIALS AND SAFEGUARDS CASELOAD BACKLOGS.

FOR ILM DELAYS, THIS MOVES NRC TO THE CONSTRAINING CRITICAL PATH ITEM FOR THE NATIONAL PROGRAM. THE ACTUAL DELAYS ARE ESTIMATED TO BE TWO TO SIX MONTHS. THE IMPACT OF THESE DELAYS IS A PERCEPTION THAT THE FEDERAL AGENCIES INVOLVED IN THIS NATIONAL PROGRAM CANNOT CONCEIVE AND MANAGE A PROGRAM THAT PROVIDES PUBLIC CONFIDENCE IN THE CONTINUATION OF NUCLEAR POWER AS A VIABLE OPTION FOR THE NATION'S ENERGY NEEDS. FOR EXAMPLE, THE INITIATION OF SHAFT CONSTRUCTION IS THE FIRST MAJOR EFFORT IN THE CHARACTERIZATION PROGRAM LEADING TO A REPOSITORY--IT HAS HIGH SYMBOLIC VALUE IN DEMONSTRATING THE FEDERAL GOVERNMENT'S ABILITY AND COMMITMENT TO MANAGE THIS NATIONAL PROGRAM. DUE TO TIME CONSTRAINTS, WE HAVE BEEN UNABLE TO COORDINATE THE RESULTS OF ANY DELAYS WITH DOE TO DETERMINE ADDITIONAL DOE COST IMPACTS RESULTING FROM THE DELAY.

FOR REVISIONS TO PART 40, NRC WAS ORIGINALLY REQUIRED BY CONGRESS TO COMPLETE THIS ACTION BY APRIL 1984. DUE TO ISSUES RAISED DURING OUR ACTIONS TO COMPLY, THE CONFORMING RULEMAKING WAS SET ON A SCHEDULE FOR COMPLETION IN FY87. THIS CUT WILL ADD FOUR TO SIX MONTHS TO THAT SCHEDULE WHICH WILL EXTEND THE TIME FOR WHEN COMPLIANCE BEGINS TO TAKE PLACE.

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FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS, PERSONNEL IN FTE'S)

<u>NUCLEAR REGULATORY RESEARCH</u>	<u>FY 1985 CURRENT ESTIMATE</u>	<u>NRC REQUEST</u>	<u>FY 1986</u>	<u>CHANGE FROM REQUEST</u>
			<u>ALLOCATION OF OMB MARK</u>	
Program Support \$	\$133.2	\$166.9	\$122.0 / 121	\$-44.9
(FTE)	(230)	(242)	(218) / 208	(-24)

THE ATTACHED TABLE DETAILS BY PROGRAM THOSE ACTIVITIES MAINTAINED WITH THE OMB MARK AND THOSE IMPACTED. THE FOLLOWING PROVIDES FURTHER DESCRIPTION OF THE ACTIVITIES IMPACTED BY THE OMB MARK.

ACTIVITIES IMPACTED BY OMB MARK

THE PRINCIPLE IMPACT OF THE OMB REDUCTIONS FOR THE RESEARCH PROGRAMS DISCUSSED BELOW RESULTS IN THE AGENCY'S INABILITY TO QUANTIFY THE AMOUNT OF REGULATORY CONSERVATION. GENERALLY, THESE CONSERVATIVE POSITIONS COULD LEAD TO (1) EXPENDING INDUSTRY AND NRC RESOURCES TO CONDUCT UNNECESSARY ANALYSES; (2) UNNECESSARY REDUCTIONS IN PLANT ELECTRICAL POWER GENERATION AND (3) UNNECESSARY PLANT SHUTDOWNS, PENDING RESOLUTION OF PROBLEMS WHEN THEY ARISE.

REACTOR ENGINEERING

- / * TERMINATION OF WORK TO DETERMINE EFFECT OF CLADDING ON PRESSURE VESSEL BEHAVIOR WILL RESULT IN A MORE CONSERVATIVE NRC POSITION IN THE PRESSURIZED THERMAL SHOCK RULE.
- * TERMINATION OF INSTRUMENTATION AND CONTROL WORK WILL LEAD TO UNCERTAINTIES REGARDING CAPACITY OF PLANT SHUTDOWN SYSTEMS TO PERFORM UNDER CONDITIONS NOT PREVIOUSLY ANALYZED.
- * TERMINATION OF EFFORTS ON CONTAMINATION OF FUEL STORAGE FACILITIES BY FAILED FUEL WILL LEAD TO UNCERTAINTIES REGARDING EQUIPMENT AND PROCEDURES NECESSARY FOR HANDLING AND RECOVERY OF FUEL PLACED IN MONITORED RETRIEVABLE STORAGE FACILITIES.

THERMAL HYDRAULIC TRANSIENTS

- * TERMINATION OF PLANNING EFFORT FOR A MODULAR TEST FACILITY WILL STOP IMPLEMENTATION OF A FLEXIBLE U.S. TEST FACILITY TO PROVIDE REACTOR SYSTEM BEHAVIOR INFORMATION UNDER ACCIDENT OR SEVERE TRANSIENT CONDITIONS IN ORDER TO PERMIT FUTURE RESPONSE TO UNUSUAL PLANT UPSET CONDITIONS, E.G. TH1.

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NUCLEAR REGULATORY RESEARCH
ACTIVITIES IMPACTED BY THE PWRC (CONTINUED)

ACCIDENT EVALUATION

- * TERMINATION OF ALL WORK BEYOND DEGRADED CORE EXCEPT TO ENVELOPE SEVERE ACCIDENTS FOR CONTAINMENT LOADS WILL RESULT IN UNCERTAINTIES IN THE IMPLEMENTATION OF SEVERE ACCIDENTS POLICY AND GREATER RELIANCE ON CONSERVATIVE SOLUTIONS.
- * TERMINATES ALL HTGR RELATED REACTOR SAFETY RESEARCH WHICH WOULD SIGNIFICANTLY DELAY NRC REVIEW OF ANY INDUSTRY INITIATIVES.
- * NO NRC FUNDS PROVIDED FOR PWF DECONTAMINATION AND DECOMMISSIONING ACTIVITIES. DOE WOULD HAVE TO ASSUME ALL RESPONSIBILITIES FOR PWF FACILITY.

REACTOR OPERATIONS AND RISK

- * SIGNIFICANT REDUCTION IN HUMAN FACTORS RESEARCH WILL RESULT IN LACK OF TECHNICAL BASIS FOR THE DEVELOPMENT OF REGULATORY POSITIONS.

WASTE MANAGEMENT, EARTH SCIENCES, AND HEALTH

- * REDUCTION IN HIGH LEVEL WASTE RESEARCH WILL RESULT IN DELAYS IN DEVELOPMENT OF INDEPENDENT PERFORMANCE MODEL DEVELOPMENT FOR BASALT AND TUFF BY TWO TO THREE YEARS AND POSSIBLE DELAYS IN THE LICENSING PROCESS. TECHNICAL BASIS FOR MODELS TO EVALUATE DOE PERFORMANCE DEMONSTRATION WILL BE FROZEN TO WHAT WE KNOW TODAY.
- * DEFERMENT OF LOW LEVEL WASTE MANAGEMENT RESEARCH WILL NECESSITATE UNEASE CONSERVATION IN THE LICENSING OF LLW DISPOSAL BY THE NRC OR IWC AGREEMENT STATES.

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NSA 1. RESEARCH

FY 1966 BGET
(DOLLARS IN MILLIONS)

ACTIVITIES IMPACTED BY CDR PARK

ACTIVITIES MAINTAINED WITH CDR PARK

REACTOR ENGINEERING

- \$ 1.7 ELIMINATE FRAGILITY TESTS
- 1.9 REDUCE ISSI
- 1.6 TERMINATE INSTRUMENTATION & CONTROL
- 2.0 TERMINATE DECOMMISSIONING & SPENT FUEL STORAGE

- \$ 4.7 SEISMIC DESIGN WORK
- 3.5 FOCUS ON SYSTEM STRUCTURAL RESPONSE & SYSTEMS INTERACTION FOR VALIDATED SEISMIC PRA METHOD.
- 4.3 EQUIPMENT QUALIFICATION
- 5.0 EVALUATE CRACK PROPAGATION
- 2.3 NRE
- 9.9 PRESSURE VESSEL
- 5.9 AGING
- 2.5 ELECTRICAL EQUIPMENT
- 1.2 FIRE PROTECTION
- 1.0 POST-ACCIDENT CONDITIONS FOR SEVERE ACCIDENTS

THERMAL HYDRAULIC TRANSIENTS

- \$ 1.0 PLANNING DESIGN OF MODULAR TEST FACILITY

- \$ 3.4 SEMISCALE
- 3.4 MIST
- 3.2 20/30
- 2.0 QOSA IV
- 3.2 SEPARATE EFFECTS
- 5.5 CORE ASSESSMENT & MAINTENANCE
- 1.0 PLANT ANALYZER

ACCIDENT EVALUATION

- \$ 3.6 ELIMINATE ALL WORK BEYOND DEGRADED CORE EXCEPT TO ENVELOPE SEVERE ACCIDENTS FOR CONTAINMENT LOADS
- 1.6 GAS-COOLED REACTOR SAFETY RESEARCH
- 1.5 TERMINATE LANL & NBL SASA
- 0.5 SEVERE ACCIDENT SUPPORT SERVICES
- 0.6 CONTAINMENT LOADING MITIGATION
- 0.3 CONTAINMENT PERFORMANCE CRITERIA
- 12.0 DO NOT PERFORM DECONTAMINATION AND DECOMMISSIONING OF PIF FACILITY.

- \$ 4.0 PIF PIF & ANALYSIS
- 3.3 NBL SOURCE TERM
- 5.0 ATRM
- 0.5 TH-2
- 3.1 DEGRADED CORE ASSESSMENT
- 2.6 FISSION PRODUCT CORE ASSESSMENT & MAINTENANCE
- 1.1 HYDROGEN
- 1.2 CONTAINMENT THERMAL HYDRAULICS
- 0.5 ACCIDENT ENERGETICS
- 3.6 SEVERE ACCIDENT ANALYSIS
- 2.1 FISSION PRODUCT SEPARATE EFFECTS
- 0.5 CORE MATERIAL PROPERTIES FOR CORES
- 0.9 FISSION PRODUCT CHEMISTRY
- 0.9 SOURCE TERM FOLLOW-ON ISSUES
- 1.6 DAMAGED FUEL CORES
- 2.0 UNCERTAINTY ANALYSIS

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NRC - REGULATORY RESEARCH		FY 1986	FY 1987
ACTIVITIES IMPACTED BY OPR WORK		(DOLLARS IN MILLIONS)	
REACTOR OPERATIONS & RISK		ACTIVITIES MAINTAINED WITH OPR WORK	
\$ 0.1	REDUCE HUMAN FACTORS	\$ 1.0	HUMAN FACTORS SIMULATORS
0.7	REDUCE FUEL CYCLE & TRANSPORTATION	3.0	RISK METHODOLOGY INTEGRATION & EVAL PROGRAM
1.0	REDUCE RELIABILITY METHODOLOGY	1.3	ACCIDENT MANAGEMENT
\$ 5.8		2.4	DATA AND UNCERTAINTY
		3.5	DATA SYSTEMS AND RELIABILITY SUPPORT
		5.6	SEVERE ACCIDENT WORK
		0.7	RELIABILITY EFFORT
		\$17.5	
WASTE MANAGEMENT, ENVIRONMENTAL SCIENCES & HEALTH			
\$ 1.5	REDUCE ENVIRONMENTAL SCIENCES	\$ 4.5	SEISMIC NETWORK IN EASTERN U.S.
0.6	HEALTH EFFECTS	2.5	HEALTH EFFECTS AND OCCUPATIONAL PROTECTION
6.9	REDUCE HIGH LEVEL WASTE	3.0	IRM EFFORTS IN WASTE FORM LEACHING, WASTE CONTAINER FAILURE MODES, GROUNDWATER FLOW IN FRACTURED SATURATED AND UNSATURATED CONDITIONS, DEPOSITORY PERFORMANCE
1.8	REDUCE LOW LEVEL WASTE BY 50%	1.8	LOW PHYSICAL & CHEMICAL PROPERTIES, SITE PERFORMANCE & MONITORING, SAFETY FEATURES OF ALTERNATIVES TO SHALLOW LAND DISPOSAL
\$10.8			
TOTAL - \$44.9		TOTAL - \$127.0	

450

FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS)

	FY 1985 CURRENT ESTIMATE	NRC REQUEST	FY 1986 ALLOCATION OF OPI MARK	CHANGE FROM REQUEST
ADMINISTRATIVE SUPPORT	956.8	969.9	960.0	-9.9

ACTIVITIES MAINTAINED WITH OPI MARK

- PROVIDES FOR CURRENT LEVEL OF LOGISTIC SUPPORT.
- GSA RENTAL CHARGE INCREASE PROVIDED.
- TELECOMMUNICATION TARIFF INCREASE OF 5% PROVIDED.

ACTIVITIES IMPACTED WITH OPI MARK

- IMPLEMENTATION OF THE CORPORATE SHARED DATA NETWORK WILL BE DELAYED AND NEW APPLICATION AND ENHANCEMENTS WILL BE DEFERRED OR ELIMINATED.
- NO FUNDS FOR CONSOLIDATION OF OFFICE SPACE. WHEN REQUIRED, FUNDS WILL HAVE TO BE OBTAINED THROUGH REPROGRAMMING.
- IMPLEMENTATION OF THE SUBJECT SEARCH PROJECT FOR THE DOCUMENT CONTROL SYSTEM WILL BE STRENGTHENED OUT.

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QUESTION 2: (C) WHY SHOULD NRC NOT PASS ON ITS COSTS OF THE RESEARCH PROGRAM TO THE NUCLEAR INDUSTRY?

ANSWER

MUCH OF THE NRC RESEARCH IS UNIQUE TO THE NEEDS OF THE NRC TO PERFORM ITS MISSION. IT IS DESIGNED TO ADDRESS POTENTIAL AREAS OF SAFETY CONCERN, AND NOT TO INCREASE OR DECREASE THE STRINGENCY OF REGULATIONS PER SE. IN FACT, NRC RESEARCH FREQUENTLY RESULTS IN MORE STRINGENT REGULATION (SEE ANSWER NO. 9). THE NRC COULD NOT RELY SOLELY ON INDUSTRY-GENERATED RESULTS TO SUPPORT THE DEVELOPMENT OF LICENSING CRITERIA IN CONNECTION WITH LICENSING REVIEWS AND CONTINUING ACTIVITIES TO RESOLVE GENERIC ISSUES; TO PROVIDE AN AUDIT CAPABILITY FOR THE REVIEW OF MATERIAL SUBMITTED BY AN APPLICANT IN THE LICENSING REVIEW PROCESS; OR TO PROVIDE AN INDEPENDENT BASE FOR PHYSICAL DATA, ENGINEERING INFORMATION, AND COMPUTER CODES TO UNDERSTAND PHENOMENA AND SUBSTANTIATE THE TECHNICAL BASIS FOR LICENSING AND INSPECTION.

SOME OF THE WORK THE NRC DOES ON PHENOMENOLOGY CAN BE APPLIED BY INDUSTRY. IN RECOGNITION OF THIS VALUE TO INDUSTRY, THE NRC HAS DEVELOPED JOINT PROGRAMS IN A NUMBER OF RESEARCH AREAS. FOR EXAMPLE, THE NRC HAS WORKED JOINTLY WITH EPRI AND THE VARIOUS USER GROUPS IN THE AREA OF THERMAL HYDRAULICS, WHERE ADVANCES IN KNOWLEDGE THAT NRC NEEDS IN ORDER TO DEVELOP REGULATIONS TO ASSURE SAFETY CAN ALSO LEAD TO IMPROVEMENTS THAT CAN REDUCE OPERATING COSTS FOR INDUSTRY.

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QUESTION 2C

THE NUCLEAR INDUSTRY SPENDS A CONSIDERABLE AMOUNT OF MONEY ON SAFETY RESEARCH, BOTH JOINTLY WITH NRC AND INDEPENDENTLY. INDUSTRY CONTRIBUTIONS ARE SUMMARIZED IN THE ATTACHED APPENDIX A TO THE ENERGY RESEARCH ADVISORY BOARD (ERAB) REPORT ON "LIGHT-WATER REACTOR RESEARCH AND DEVELOPMENT REACTOR SAFETY R&D" DATED SEPTEMBER 1983. WHILE SOMEWHAT DATED, THE REPORT FINDINGS ARE STILL CONSIDERED VALID. THE REPORT SHOWS SAFETY RESEARCH EXPENDITURES BY NONGOVERNMENT ORGANIZATIONS TO BE SUBSTANTIAL. IN THE YEARS 1983-1986, THE TOTAL COST OF EPRI FUNDED RESEARCH IS ESTIMATED AT \$218 MILLION. IN ADDITION, THE REST OF THE PRIVATE SECTOR IS ESTIMATED TO SPEND APPROXIMATELY \$40-\$60 MILLION PER YEAR ON SAFETY RELATED RESEAPCH.

AS TO WHETHER INDUSTRY COULD PAY FOR RESEARCH PERFORMED BY THE NRC, UNDER CURRENT LAW (31 USC 9701) THE NRC IS UNABLE TO RECOVER COSTS OF GENERIC SAFETY RESEARCH IN THE FORM OF FEES. HOWEVER, THE ADMINISTRATION IS PROPOSING THAT THE NRC RECOVER COSTS BY AN ANNUAL FEE BASED UPON THE CAPACITY OF EACH PLANT. ADDITIONALLY, THE CONGRESS RECENTLY PASSED AND THE PRESIDENT HAS SIGNED H.R. 3128, WHICH REQUIRES THE NRC RECOVER A SUBSTANTIAL PART OF ITS FISCAL YEAR 1986 BUDGET FROM USER FEES.

THERE IS NO DIRECT BENEFIT TO THE NRC RESULTING FROM THE IMPOSITION OF USER FEES ON NRC LICENSEES. HOWEVER, IF THE INTENT IS TO RAISE RESOURCES THAT WOULD OFFSET A LARGE PERCENTAGE OF THE COST OF OPERATION OF THE NRC, A BENEFIT TO THE TAXPAYERS COULD BE

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QUESTION 2C

PERCEIVED BY PLACING A MORE DIRECT BURDEN ON THE USERS OF NRC SERVICES.

THE STAFF IS PREPARING A STUDY OF ALTERNATIVE MECHANISMS (LICENSE FEES, USER FEES, NUCLEAR WASTE FUND, ETC.) FOR INCREASING REVENUES. RESULTS OF THIS STUDY COULD BE USED AS THE BASIS FOR DEVELOPING A COMMISSION APPROACH AND COMMENSURATE LEGISLATION TO AUTHORIZE THE CHARGING OF SUCH FEES.

COMMISSION ASSELSTINE HAS THE FOLLOWING RESPONSE:

I BELIEVE THE NRC SHOULD BE REQUIRED BY THE CONGRESS TO PASS ON A SUBSTANTIAL PORTION OF ITS COSTS OF THE RESEARCH PROGRAM TO THE NUCLEAR INDUSTRY. TWO OF THE MOST EXPENSIVE RESEARCH PROGRAMS THIS AGENCY HAS FUNDED OVER THE LAST 11 YEARS ARE THE EMERGENCY CORE COOLING PROGRAM AND THE SOURCE TERM PROGRAM. THE STAFF IS NOW USING THE RESULTS OF THE EMERGENCY CORE COOLING EFFORTS TO DEVELOP PROPOSED CHANGES TO THE REGULATIONS THAT WOULD EFFECTIVELY RELAX THE SAFETY STANDARDS. THE INDUSTRY HAS FOR YEARS URGED THE COMMISSION TO RELAX SAFETY STANDARDS BASED ON SOURCE TERM CONSIDERATIONS. SUCH RELAXATIONS OF SAFETY STANDARDS PROVIDE CLEAR AND TANGIBLE BENEFITS TO THE INDUSTRY. I BELIEVE INDUSTRY SHOULD BE REQUIRED TO FUND, AT A MINIMUM, ALL RESEARCH THAT LEADS TO OR IS LIKELY TO LEAD TO RELAXED SAFETY STANDARDS.

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QUESTION 3: (A) WHAT SPECIFIC ISSUES DO THE NRC STAFF BELIEVE REQUIRE RESOLUTION PRIOR TO RESTART OF BROWNS FERRY UNITS 1,2, AND 3, SEQUOYAH UNITS 1 AND 2, AND LICENSING OF WATTS BAR UNITS 1 AND 2?

ANSWER

THE ISSUES ASSOCIATED WITH THE ABOVE TVA PLANTS AND THE CURRENT NRC APPROACH AND PLANS FOR RESOLVING THESE ISSUES RELATIVE TO RESTART OF THE PLANTS ARE IDENTIFIED IN SECY-86-1A. THESE PLANS WERE DEVELOPED WITHOUT RECEIPT OF TVA RESPONSES AND SCHEDULES TO ALL OF THE CONCERNS NRC IDENTIFIED TO TVA. TVA BRIEFED THE COMMISSION ON MARCH 11, 1986 AND DESCRIBED SOME OF ITS PLANS TO ADDRESS THESE CONCERNS. UPON RECEIPT OF TVA'S RESPONSES, OUR PLANS WILL BE REVISED AS NEEDED. A COPY OF THIS STAFF PAPER HAS BEEN PREVIOUSLY PROVIDED TO SUBCOMMITTEE STAFF.

THE FOLLOWING LISTS THE MAJOR ISSUES CURRENTLY IDENTIFIED FOR EACH PLANT.

BROWNS FERRY UNITS 1, 2, AND 3

THE MAJOR ISSUES IDENTIFIED FOR THE BROWNS FERRY UNITS ARE:

- SITE MANAGEMENT ORGANIZATION

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QUESTION 3A

- OPERATIONAL READINESS PROGRAM
- MAINTENANCE IMPROVEMENT PROGRAM
- SEISMIC ISSUES
- DESIGN CONTROL
- DISPOSITION OF CONTRACTOR RECOMMENDATIONS
- ENVIRONMENTAL QUALIFICATION PROGRAM
- FIRE PROTECTION PROGRAM
- EMPLOYEE CONCERNS PROGRAM
- EMERGENCY RESPONSE CAPABILITY
- OPERATOR REEXAMINATION
- QUALITY ASSURANCE PROGRAM
- LICENSING ISSUES:
 - UNIT 2 RELOAD/MODIFICATION AMENDMENT
 - APPENDIX R EXEMPTION
 - APPENDIX J EXEMPTION
 - AMENDMENT ON ORGANIZATIONAL CHANGES.

SEQUOYAH UNITS 1 AND 2

THE MAJOR ISSUES IDENTIFIED FOR THE SEQUOYAH UNITS ARE:

- EMPLOYEE CONCERNS PROGRAM
- ALLEGATIONS
- WELDING
- DESIGN CONTROL

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QUESTION 3A

- ELECTRICAL DESIGN CALCULATIONS
- EQUIPMENT QUALIFICATION
- OPERATIONAL READINESS
- CABLE TRAY SUPPORT
- TECHNICAL SPECIFICATION REVISIONS
- WRONGDOING, INTIMIDATION AND HARASSMENT
- NSRS REPORTS
- CORPORATE ACTIVITIES
- QA PROGRAM IMPLEMENTATION

WATTS BAR UNITS 1 AND 2

THE MAJOR ISSUES IDENTIFIED FOR THE WATTS BAR UNITS ARE:

- EMPLOYEE CONCERNS
- ALLEGATIONS
- NSRS REPORTS
- QUALITY ASSURANCE
- WELDING
- EQUIPMENT QUALIFICATION
- TVA ORGANIZATION
- LICENSING ITEMS
- WRONGDOING, INTIMIDATION AND HARASSMENT ISSUES
- OPERATIONAL READINESS

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QUESTION 3A

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

A PRIMARY ISSUE REQUIRING RESOLUTION PRIOR TO RESTART OF ANY OF THE TVA PLANTS IS WHEN, IF EVER, DID TVA HAVE CORPORATE AND SITE SPECIFIC QUALITY ASSURANCE PROGRAMS THAT WERE ADEQUATE AND THAT WERE PROPERLY IMPLEMENTED BY AN INDEPENDENT AND COMPETENT QA STAFF. WITHOUT AN ANSWER TO THIS I DO NOT SEE HOW AN ADEQUATE REMEDIAL PROGRAM OR VERIFICATION PROGRAM CAN BE DEVELOPED. FOR EXAMPLE, IF AFTER A RETROSPECTIVE EXAMINATION OF THE PROGRAMS, ONE WERE TO CONCLUDE THAT THE PROGRAMS IN MOST AREAS WERE ADEQUATE AND WERE CARRIED OUT PROPERLY, THEN ONE TYPE OF VERIFICATION PROGRAM WOULD BE DEVELOPED. ON THE OTHER HAND, IF THERE IS SIGNIFICANT INFORMATION SUPPORTING A CONCLUSION THAT THERE NEVER WAS AN EFFECTIVE QA PROGRAM AT TVA OR AT AN INDIVIDUAL SITE, THEN SUBSTANTIALLY DIFFERENT REMEDIAL ACTION AND VERIFICATION PROGRAMS WOULD BE NEEDED. THE FORMER ANSWER MIGHT LEAD TO A SAMPLING PROGRAM INVOLVING A FEW SUBJECT AREAS SUCH AS WELDS AND PIPE SUPPORTS WHILE THE LATTER ANSWER MIGHT LEAD TO A TOP-TO-BOTTOM REEXAMINATION OF THE ENTIRE PLANT. THE NRC STAFF AND TVA'S NEW NUCLEAR MANAGEMENT ARGUE THAT AN EXAMINATION OF THE HISTORIC APPROACH OF TVA TO ITS NUCLEAR QA PROGRAM IS UNNECESSARY FOR THE PURPOSES OF DEVELOPING AN ACTION PLAN THAT WOULD LEAD TO THE RESTART OF THE PLANTS. I DISAGREE. I BELIEVE THAT SUCH AN HISTORICAL EXAMINATION IS A NECESSARY FIRST STEP IN THE DEVELOPMENT OF A SOUND PROGRAM THAT WILL PROVIDE THE INFORMATION NEEDED TO JUSTIFY THE RESTART OF THE TVA PLANTS.

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QUESTION 3: TVA

- (B) IN ANSWER TO PREHEARING QUESTION 9 YOU STATE THAT INCLUDED AMONG NRC ACTIVITIES DEVOTED TO TVA WERE SYSTEMATIC ASSESSMENTS OF LICENSEE PERFORMANCE (SALPs). PLEASE SUMMARIZE THE MOST RECENT SALP FINDINGS AT BROWNS FERRY, SEQUOYAH, WATTS BAR, AND BELLEFONTE? DID THE FINDINGS AT SEQUOYAH AND WATTS BAR ACCURATELY REFLECT WHAT NOW APPEARS TO HAVE BEEN THE ACTUAL CONDITIONS AT THESE PLANTS?

ANSWER

THE MOST RECENT SYSTEMATIC ASSESSMENTS OF LICENSEE PERFORMANCE (SALPs) FOR TVA FACILITIES EVALUATED TVA'S REGULATORY PERFORMANCE FOR THE FIFTEEN MONTH PERIOD ENDING MAY 31, 1985. IN ACCORDANCE WITH STANDARD SALP PROCEDURES, EACH OF THE FOUR TVA FACILITIES WAS EVALUATED IN SELECTED FUNCTIONAL AREAS RELATED TO NUCLEAR POWER PLANT CONSTRUCTION AND OPERATIONS. EACH APPROPRIATE FUNCTIONAL AREA (FOR EXAMPLE, OPERATIONS, MAINTENANCE, ELECTRICAL INSTALLATION, ETC.) IS ASSIGNED ONE OF THREE PERFORMANCE CATEGORIES: CATEGORY 1, CATEGORY 2, OR CATEGORY 3. A CATEGORY 1 ASSIGNMENT INDICATES THAT A HIGH LEVEL OF PERFORMANCE WITH RESPECT TO NUCLEAR SAFETY IS BEING ACHIEVED. CATEGORY 2 REPRESENTS SATISFACTORY PERFORMANCE, AND THE ASSIGNMENT OF A CATEGORY 3 INDICATES THAT ONLY MINIMALLY SATISFACTORY PERFORMANCE IS BEING

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QUESTION 3B

ACHIEVED. IN ALL FUNCTIONAL AREAS RATED AS CATEGORY 3, INCREASED ATTENTION OF BOTH NRC AND THE LICENSEE IS NECESSARY.

IN TOTAL, THE MOST RECENT SALPs FOR SEQUOYAH, BROWNS FERRY, WATTS BAR AND BELLEFONTE RESULTED IN THIRTY-NINE FUNCTIONAL AREA EVALUATIONS. THESE FOUR TVA FACILITIES RECEIVED TEN CATEGORY 3 ASSIGNMENTS, TWENTY-EIGHT CATEGORY 2'S, AND ONLY ONE AREA WAS RATED AS CATEGORY 1 (SITE SPECIFIC SUMMARIES ARE ENCLOSED). THE SALP REPORT CHARACTERIZED OVERALL TVA PERFORMANCE AS FOLLOWS:

OVERALL UTILITY EVALUATION (REFERENCE: TVA SALP REPORT, SEPTEMBER 17, 1985)

"THE LICENSEE HAS FIVE UNITS WITH OPERATING LICENSES AT TWO SITES AND FOUR UNITS UNDER CONSTRUCTION AT TWO SITES. THE LICENSEE IS FAMILIAR WITH NRC REGULATIONS, GENERIC ISSUES, AND NRC STAFF POSITIONS. ALTHOUGH THE LICENSEE HAS A LARGE AND COMPETENT TECHNICAL STAFF TO SUPPORT A NUCLEAR PROGRAM OF THIS SIZE OF NUCLEAR COMMITMENT, THE LICENSEE CONTINUES TO EXPERIENCE DIFFICULTY IN FOCUSING AND DIRECTING THIS STAFF TALENT TO ADDRESS ON A TIMELY BASIS, THE POTENTIAL SAFETY ISSUES THAT ARE IDENTIFIED EITHER WITHIN TVA OR ELSEWHERE IN THE NUCLEAR INDUSTRY.

AT THE BEGINNING OF THE APPRAISAL PERIOD, THE BROWNS FERRY, WATTS BAR, AND SEQUOYAH SITES HAD INDICATED MAJOR WEAKNESSES. IMPROVED PERFORMANCE WAS NOT EVIDENT AS INDICATED BY THE CONTINUED LOW SALP RATINGS (BELOW THE REGIONAL NORM) AND THE POOR ENFORCEMENT HISTORY

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QUESTION 3B

(APPROXIMATELY TWICE AS MANY VIOLATIONS AS COMPARED TO A COMPARABLE UTILITY).

THE SALP BOARD'S REVIEW OF THE OVERALL PERFORMANCE CONCLUDED THAT THERE WERE FUNDAMENTAL, CORPORATE PROBLEMS THAT ARE CONTINUALLY NOT ACTED UPON AND THEREFORE UNCORRECTED. THESE ARE BELIEVED TO BE THE MAJOR FACTOR ON THE MARGINAL PERFORMANCE OF THE UTILITY. THE BOARD CONCLUDED THAT THE ROOT CAUSE OF THE LACK OF IMPROVEMENT IS THE LACK OF EFFECTIVE MANAGEMENT BOTH AT THE CORPORATE AND SITE LEVELS."

INFORMATION CONCERNING TVA WHICH HAS DEVELOPED SINCE COMPLETION OF THE SALP REPORTS DURING THE SUMMER OF 1985 CLEARLY INDICATES THAT TVA'S OVERALL PERFORMANCE PROBLEMS ARE EVEN MORE SEVERE THAN CHARACTERIZED IN THE SALP REPORTS. IN LOOKING RETROSPECTIVELY AT THESE REPORTS, IT DOES NOW APPEAR THAT THE REPORT ON WATTS BAR DID NOT REFLECT MANY ISSUES WHICH HAVE BECOME KNOWN TO US SINCE THAT TIME. WHILE ALL PROBLEM AREAS AT EACH FACILITY WERE NOT FULLY IDENTIFIED IN THESE REPORTS, THE OVERALL UTILITY EVALUATION DESCRIBED ABOVE DOES SEEM TO ACCURATELY CAPTURE THE CENTRAL ELEMENT THAT TVA, BY ITS CONTINUED POOR PERFORMANCE, HAS DEMONSTRATED INEFFECTIVE MANAGEMENT OF ITS NUCLEAR PROGRAM.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

I BELIEVE THE WATTS BAR SALP REPORT FAILED TO REFLECT SEVERAL SIGNIFICANT ISSUES THAT WERE KNOWN, OR CLEARLY SHOULD HAVE BEEN KNOWN, BY SENIOR NRC MANAGERS. THIS IS BUT ONE INDICATION OF NRC'S REGULATORY FAILURE IN DEALING EFFECTIVELY WITH THE TVA NUCLEAR PROGRAM BREAKDOWN.

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QUESTION 3BTVA SALP SUMMARY

SEQUOYAH: NINE AREAS RATED CATEGORY 2. TWO AREAS RATED AS
CATEGORY 3.

BROWNS FERRY: THREE AREAS RATED CATEGORY 2. SEVEN AREAS RATED
CATEGORY 3.

WATTS BAR: TEN AREAS RATED CATEGORY 2. ONE AREA RATED
CATEGORY 3.

BELLEFONTE: ONE AREA RATED CATEGORY 1. SIX AREAS RATED
CATEGORY 2.

OVERALL: ONE AREA RATED CATEGORY 1. TWENTY-EIGHT AREAS
RATED CATEGORY 2. TEN AREAS RATED CATEGORY 3.

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QUESTION 4: (A) THE COMMISSION HAS PREVIOUSLY EXPRESSED ITS SUPPORT FOR THE "NUCLEAR POWER PLANT SECURITY AND ANTI-TERRORISM" BILL, WHICH WOULD REQUIRE NUCLEAR UTILITIES TO FINGERPRINT ALL PERSONS ALLOWED UNESCORTED ACCESS TO THEIR FACILITIES AND TO SUBMIT SUCH FINGERPRINTS TO THE FBI FOR A CRIMINAL HISTORY RECORDS CHECK. WE HAVE SOME CONCERNS ABOUT WHETHER THIS BILL WOULD ACCOMPLISH ITS INTENDED PURPOSE AND ABOUT ITS IMPACT ON THE CIVIL LIBERTIES OF PLANT EMPLOYEES. OF THE ACTUAL INCIDENTS OF ATTEMPTED OR SUCCESSFUL SABOTAGE, HOW MANY MIGHT HAVE BEEN AVERTED HAD THIS MEASURE BEEN IN EFFECT? WOULD THE BILL, IN FACT, SIGNIFICANTLY IMPROVE SECURITY AT NUCLEAR POWER PLANTS?

ANSWER

IT IS IMPOSSIBLE TO SAY HOW MANY INCIDENTS MIGHT HAVE BEEN AVERTED IF THE BILL HAD BEEN IN EFFECT. HOWEVER, IN 1983, WHILE CONDUCTING SCREENING FOR A GOVERNMENT CLEARANCE, IT WAS DISCOVERED THAT A CONTRACT SECURITY GUARD HAD FAILED TO LIST TWO PREVIOUS ARRESTS ON A PERSONNEL SECURITY QUESTIONNAIRE. ONE OF THESE ARRESTS RESULTED IN HIS CONVICTION AND SUBSEQUENT INCARCERATION FOR "ASSAULT WITH INTENT TO MURDER." IN MOST CASES, UNDER PRESENT LIMITATIONS, THIS

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QUESTION 4A

DATA WOULD NOT BE AVAILABLE TO NUCLEAR REACTOR LICENSEES FOR USE IN DETERMINING AN INDIVIDUAL'S TRUSTWORTHINESS AND RELIABILITY. THIS BILL WOULD ASSIST LICENSEES IN MAKING A SOUND DETERMINATION IN THIS AREA BY PROVIDING THEM WITH SUCH ARREST AND CONVICTION DATA.

ALSO, BASED UPON THE NRC'S SAFEGUARDS SUMMARY EVENT LIST (NUREG-0525), APPROXIMATELY ONE-THIRD OF SAFEGUARDS-RELATED EVENTS INVOLVING NRC REGULATED NUCLEAR MATERIAL AND FACILITIES INVOLVE THE INSIDE EMPLOYEE. FOR EXAMPLE, IN 1984, 43 OF 111 SAFEGUARDS EVENTS WERE ATTRIBUTABLE TO THE INSIDER. THESE EVENTS INCLUDED DRUG-RELATED INCIDENTS, VANDALISM, AND THE PERPETRATION OF HOAXES. WHILE THE EXISTING SAFEGUARDS EVENT DATA BASE DOES NOT CORRELATE INSIDER ACTIVITY WITH CRIMINAL HISTORY RECORDS, THE DATA BASE DOES DOCUMENT A LARGE NUMBER OF INCIDENTS AT REACTOR SITES SERIOUS ENOUGH TO INVOLVE ARRESTS OF INDIVIDUALS.

LICENSEE ACCESS TO THE FBI CRIMINAL FILE WOULD PROVIDE GREATER ASSURANCE THAT INDIVIDUALS WITH CRIMINAL HISTORIES BEARING UPON THEIR TRUSTWORTHINESS AND RELIABILITY ARE DENIED UNESCORTED ACCESS TO NUCLEAR REACTORS. AT PRESENT, MOST CRIMINAL HISTORY CHECKS BY NUCLEAR REACTOR LICENSEES ARE LIMITED TO STATE OR LOCAL FILES WHICH DO NOT INCLUDE AN INDIVIDUAL'S PAST CRIMINAL RECORD IN OTHER AREAS OF THE COUNTRY. LOCAL CRIMINAL HISTORY DATA IS SUSCEPTIBLE TO OMISSION OF INFORMATION GENERATED IN OTHER JURISDICTIONS. THIS

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QUESTION 4A

INFORMATION CAN BE A CRUCIAL FACTOR IN THE DETERMINATION TO GRANT OR DENY AN INDIVIDUAL UNESCORTED FACILITY ACCESS. INVESTIGATING AN INDIVIDUAL'S CRIMINAL HISTORY, OR LACK THEREOF, IS ONE PART OF A COMPREHENSIVE SCREENING PROGRAM BEING PURSUED BY THE NRC FOR EMPLOYEES GRANTED UNESCORTED ACCESS TO THE MOST SENSITIVE AREAS OF NUCLEAR POWER REACTORS. AN ACCESS AUTHORIZATION RULE IS THE PRIMARY INITIATIVE BEING DEVELOPED BY THE NRC TO PROVIDE ADDITIONAL PROTECTION AGAINST THE MALEVOLENT "INSIDER" THREAT AT POWER REACTORS AND HELP ASSURE THE RELIABILITY AND TRUSTWORTHINESS OF A REACTOR SITE POPULATION. THIS RULE WOULD REQUIRE A THOROUGH BACKGROUND INVESTIGATION, INCLUDING CRIMINAL HISTORY CHECK, TO BE CONDUCTED ON ALL SITE EMPLOYEES WITH UNESCORTED FACILITY ACCESS; CURRENTLY, THERE IS NO FEDERAL REGULATION REQUIRING SUCH SCREENING OF EMPLOYEES OTHER THAN FOR MEMBERS OF THE SECURITY FORCE.

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QUESTION 4: (B) PLEASE ENUMERATE SPECIFIC EXAMPLES OF INFORMATION IN CRIMINAL HISTORY RECORDS THAT WOULD BE PASSED ON TO UTILITIES AND WHICH OF THESE COULD BE USED BY UTILITIES IN THEIR PERSONNEL DECISIONS.

ANSWER

BASED UPON DISCUSSION WITH THE FBI, IT IS THE NRC'S UNDERSTANDING THAT THE CONTENTS OF THE FBI CRIMINAL FILE INCLUDE FEDERAL AND STATE CONVICTION AND ARREST DATA INCLUDING FELONY AND SERIOUS MISDEMEANOR OFFENSES. THE PROPOSED NRC ACCESS AUTHORIZATION RULE OUTLINES CRITERIA FOR LICENSEE USE IN THE EVALUATION OF BACKGROUND INVESTIGATION INFORMATION. THESE CRITERIA SHOULD BE USED IN DETERMINING IF AN INDIVIDUAL MAY POSE AN UNACCEPTABLE RISK TO THE PUBLIC HEALTH AND SAFETY IF GRANTED UNESCORTED ACCESS TO A NUCLEAR REACTOR. WITH RESPECT TO A CRIMINAL HISTORY, THE APPLICABLE CRITERION IS: "HAS BEEN CONVICTED OF ANY FELONY OR SERIES OF HABITUAL LESSER OFFENSES INDICATING CRIMINAL TENDENCIES." GUIDANCE ON THE PROPER USE OF THIS CRITERION NOTES THAT THE NATURE OF A GIVEN CONVICTION SHOULD BE CONSIDERED IN DETERMINING ITS RELEVANCY TO PROTECTING THE PUBLIC HEALTH AND SAFETY. IT IS INTENDED THAT INDIVIDUALS BE PROTECTED FROM DENIAL OF A CLEARANCE BASED UPON ISOLATED INSTANCES OF UNACCEPTABLE BEHAVIOR NOT RELEVANT TO SUITABILITY FOR UNESCORTED FACILITY ACCESS.

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QUESTION 4: (C) WHAT SAFEGUARDS DOES THE BILL PROVIDE OR COULD BE ESTABLISHED TO PREVENT INFRINGEMENT OF CIVIL LIBERTIES?

ANSWER

THE BILL REQUIRES THE NRC TO ISSUE REGULATIONS IMPLEMENTING PROCEDURES FOR THE TAKING OF FINGERPRINTS AND ESTABLISHING CONDITIONS FOR THE USE OF THE INFORMATION. PROCEDURES WOULD INCLUDE LIMITING THE REDISSEMINATION OF CRIMINAL RECORDS, ASSURING THAT THE INFORMATION IS USED SOLELY FOR ITS INTENDED PURPOSE, AND PROVIDING INDIVIDUALS WITH THE RIGHT TO COMPLETE AND CORRECT CRIMINAL HISTORY DATA PRIOR TO ANY FINAL ADVERSE ACTION.

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QUESTION 5: WHAT IS THE COMMISSION'S POSITION ON WHETHER THE DEPARTMENT SHOULD DEFER REPOSITORY SITE CHARACTERIZATION ACTIVITIES UNTIL THE NRC HAS ISSUED ITS ASSESSMENT OF DOE'S SITE CHARACTERIZATION PLANS? HAS DOE ACCEDED TO THIS VIEW?

ANSWER

IN THE PREAMBLE TO ITS PROPOSED 10 CFR PART 60 RULE TO REVISE HIGH-LEVEL WASTE REPOSITORY LICENSING PROCEDURES IN LIGHT OF THE NUCLEAR WASTE POLICY ACT, THE COMMISSION SAID IT BELIEVED THAT "CONGRESS INTENDED THAT DOE SHOULD PROVIDE THE [SITE CHARACTERIZATION] PLANS SUFFICIENTLY FAR IN ADVANCE SO THAT COMMENTS MAY BE DEVELOPED AND SUBMITTED BACK TO DOE EARLY ENOUGH TO BE CONSIDERED WHEN SHAFT SINKING [FOR SITE CHARACTERIZATION] OCCURS, AND AT ALL TIMES THEREAFTER." (FEDERAL REGISTER VOL. 50, NO. 12, JANUARY 17, 1985, P. 1583.) THE COMMISSION CONTINUES TO SUPPORT THIS READING OF CONGRESSIONAL INTENT.

IN RESPONSE TO NRC COMMENTS ON THE DOE DRAFT MISSION PLAN, DOE HAS STATED: "NRC AGREEMENT ON THE SITE-CHARACTERIZATION PLAN IN ITS ENTIRETY IS NOT REQUIRED BEFORE SINKING THE EXPLORATORY SHAFT. THE DOE HAS EXCHANGED INFORMATION WITH THE NRC CONCERNING SHAFT-CONSTRUCTION TECHNIQUES AND INTENDS TO REACH AGREEMENT ON THIS PARTICULAR ISSUE BEFORE STARTING SHAFT CONSTRUCTION. OTHER

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QUESTION 5

ISSUES, HOWEVER, WILL BE ADDRESSED WHEN NRC ISSUES THE SITE-CHARACTERIZATION ANALYSIS (SCA) REQUIRED BY 10 CFR PART 60. THE SCA IS NOT REQUIRED BEFORE THE START OF SHAFT CONSTRUCTION." (SEE MISSION PLAN VOLUME II, RECORD OF RESPONSES, JUNE, 1985, P. 128.)

WHILE THE STAFF AGREES THAT THE SCA IS NOT REQUIRED PRIOR TO THE START OF SHAFT CONSTRUCTION, SUCH CONSTRUCTION SHOULD NOT PROCEED UNTIL DOE HAS CONSIDERED NRC COMMENTS AND REACHED AGREEMENT ON SHAFT RELATED ISSUES IN THE SCP. THE STAFF HAS INDICATED ITS WILLINGNESS TO REVIEW SHAFT RELATED ISSUES IN ADVANCE OF REVIEWING OTHER ASPECTS OF THE SCP THAT ARE NOT ON DOE'S CRITICAL PATH SCHEDULE.

IF DOE IS TO MEET ITS SCHEDULED MILESTONES FOR SITE CHARACTERIZATION AND SINKING OF THE SHAFTS, THERE WILL HAVE TO BE EFFECTIVE NRC-DOE CONSULTATION PRIOR TO THE SCP TO IDENTIFY MAJOR QUESTIONS AND ISSUES RELATED TO SHAFT CONSTRUCTION SUFFICIENTLY EARLY SO THAT THEY CAN BE RESOLVED IN DOE'S PLANNING PROCESS BEFORE FINAL DECISIONS AND COMMITMENTS ARE MADE REGARDING SHAFT CONSTRUCTION. WHILE WE ARE ALREADY CONSULTING WITH DOE ON ISSUES RELATED TO THE EXPLORATORY SHAFT, DOE MUST IDENTIFY WHERE ADDITIONAL CONSULTATION IS NEEDED IN A TIMELY MANNER AND RESOLVE ISSUES AND QUESTIONS IDENTIFIED TO DATE.

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QUESTION 6: WHAT SPECIFIC ORGANIZATIONAL CHANGES WOULD BE NEEDED TO STRENGTHEN THE AUTHORITY OF THE NRC CHAIRMAN WHILE PRESERVING THE BENEFITS OF THE COLLEGIAL STRUCTURE?

ANSWER

REORGANIZATION PLAN NO. 1 OF 1960 CURRENTLY PROVIDES THAT THE COMMISSION SHALL CONCERN ITSELF WITH POLICY FORMULATION, RULEMAKING, AND ORDERS AND ADJUDICATIONS. THESE FUNCTIONS SHOULD PROBABLY REMAIN VESTED IN THE COMMISSION AS LONG AS THAT STRUCTURE IS REQUIRED BY STATUTE.

CHAIRMAN PALLADINO'S LETTER OF JANUARY 23, 1985 TO THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT OF THE HOUSE APPROPRIATIONS COMMITTEE PROVIDES HIS VIEWS ON THIS MATTER.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

I DO NOT BELIEVE THAT ANY ORGANIZATIONAL CHANGES ARE NEEDED TO STRENGTHEN THE AUTHORITY OF THE CHAIRMAN WHILE PRESERVING THE BENEFITS OF THE COLLEGIAL STRUCTURE. UNDER HIS EXISTING AUTHORITY, THERE IS ROOM FOR THE NRC CHAIRMAN TO PLAY A MORE ACTIVE ROLE IN THE DAY-TO-DAY MANAGEMENT OF THE NRC STAFF. MORE ACTIVE INVOLVEMENT BY THE CHAIRMAN COULD HELP BETTER ENSURE THAT THE NRC STAFF IS EFFECTIVELY AND EFFICIENTLY CARRYING OUT THE POLICY DECISIONS OF THE FULL COMMISSION. OF COURSE, GREATER INVOLVEMENT BY THE CHAIRMAN IN THE STAFF'S DAY-TO-DAY ACTIVITIES CARRIES WITH IT A HIGHER DEGREE OF RESPONSIBILITY AND ACCOUNTABILITY FOR THE STAFF'S PERFORMANCE.

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QUESTION 6

QUESTION 6: (A) WOULD THE COMMISSION FAVOR LEGISLATION THAT SIMULTANEOUSLY (A) CONVERTED THE NRC TO AN AGENCY DIRECTED BY A SINGLE ADMINISTRATOR AND (B) ESTABLISHED A NUCLEAR SAFETY BOARD ALONG THE LINES OF THE NATIONAL TRANSPORTATION SAFETY BOARD?

ANSWER

A MAJORITY OF THE COMMISSIONERS FEEL A SINGLE ADMINISTRATOR STRUCTURE IS MORE DESIRABLE THAN THE CURRENT COLLEGIAL STRUCTURE. HOWEVER, THE COMMISSION QUESTIONS ESTABLISHING ANOTHER FEDERAL AGENCY ALONG THE LINES OF THE NATIONAL TRANSPORTATION SAFETY BOARD.

CHAIRMAN PALLADINO FAVORS A SINGLE ADMINISTRATOR FORM OF AGENCY AS INDICATED IN HIS JANUARY 23, 1985 LETTER TO THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT.

COMMISSIONER ZECH FAVORS A SINGLE ADMINISTRATOR. HE REALIZES THAT THIS IS NOT LIKELY TO HAPPEN DURING THE REMAINING YEARS OF HIS TERM AND DOES NOT WISH TO DIVERT ATTENTION AND RESOURCES TO TRYING TO ACHIEVE THAT OBJECTIVE IN THE NEAR TERM. HE WILL WORK CLOSELY WITH HIS COLLEAGUES AND INTENDS TO IMPLEMENT STRONGLY THE ROLE OF THE CHAIRMAN UNDER EXISTING LAW.

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QUESTION 6

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

I CONTINUE TO BELIEVE THAT THERE ARE SUBSTANTIAL ADVANTAGES IN HAVING THE MANY COMPLEX AND POLARIZED ISSUES OF NUCLEAR SAFETY REGULATION CONSIDERED AND DECIDED BY A GROUP OF INDIVIDUALS WITH DIFFERENT BACKGROUNDS, TRAINING AND EXPERIENCE. HOWEVER, IF THE CONGRESS WERE TO DECIDE TO REPLACE THE COMMISSION WITH A SINGLE ADMINISTRATOR, I WOULD STRONGLY FAVOR THE ESTABLISHMENT OF A NUCLEAR SAFETY BOARD ALONG THE LINES OF THE NATIONAL TRANSPORTATION SAFETY BOARD (NTSB). SUCH A BOARD WOULD PROVIDE THE INDEPENDENCE AND STATURE NEEDED FOR TRULY CREDIBLE INVESTIGATIONS OF ACCIDENTS AND SERIOUS OPERATING EVENTS AT NUCLEAR POWER PLANTS AND OTHER LICENSED NUCLEAR FACILITIES. INDEED, THE NEED FOR A CREDIBLE AND INDEPENDENT EXPERT GROUP TO INVESTIGATE ACCIDENTS AND SERIOUS OPERATING EVENTS EXISTS WHETHER THERE IS A COMMISSION OR A SINGLE ADMINISTRATOR.

SUCH A GROUP COULD ALSO SERVE AS A VALUABLE INDEPENDENT SOURCE OF EXPERT ADVICE TO THE AGENCY, THE CONGRESS AND THE PUBLIC ON NUCLEAR SAFETY MATTERS. SUCH A GROUP, FOR EXAMPLE, COULD PROVIDE CREDIBLE PERIODIC EVALUATIONS ON THE STATE OF NUCLEAR SAFETY AND ON THE LEVEL OF PERFORMANCE BEING ACHIEVED BY THE INDUSTRY AND ITS GOVERNMENT REGULATOR.

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QUESTION 7: INSPECTOR GENERAL

WHAT IS THE COMMISSION'S POSITION WITH RESPECT TO ESTABLISHMENT OF AN INDEPENDENT INSPECTOR GENERAL TO REPLACE THE OFFICE OF INSPECTOR AND AUDITOR?

ANSWER

THE NRC IS A RELATIVELY SMALL AGENCY, HEADED BY A FIVE-MEMBER COMMISSION. THE COMMISSION'S AUDIT AND INVESTIGATIVE UNIT FOR INTERNAL AFFAIRS--THE OFFICE OF INSPECTOR AND AUDITOR (OIA)--HAS DIRECT ACCESS TO THE COMMISSIONERS, AND HAS ALL THE NECESSARY INDEPENDENCE TO DO ITS JOB.

MOREOVER, BECAUSE THE AGENCY IS RELATIVELY SMALL, THE COMMISSION BELIEVES IT IS IMPORTANT THAT OIA REMAIN A NECESSARY MANAGEMENT EXTENSION OF THE COMMISSION IN OVERSEEING THE PROGRAMS AND ACTIVITIES OF THE NRC. THE COMMISSION ITSELF HAS AMPLE MANAGEMENT CONTROL OVER OIA SHOULD THE QUALITY OF OIA'S WORK BE CALLED INTO QUESTION.

THE PROPOSED ESTABLISHMENT OF AN INDEPENDENT INSPECTOR GENERAL WOULD TAKE SOME OF THOSE MANAGEMENT BENEFITS AWAY FROM THE COMMISSION. IN THE ABSENCE OF ANY SHOWING THAT STATUTORY INDEPENDENCE IS NEEDED FOR OIA, THE COMMISSION OPPOSES ESTABLISHMENT OF AN OFFICE WHICH WOULD LESSEN ITS ABILITY TO DIRECT THE FUNCTIONING OF THE AGENCY AND WHICH WOULD IMPOSE NEW, BURDENSOME, AND PROBABLY COSTLY REQUIREMENTS ON THE COMMISSION.

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QUESTION 7

COMMISSIONER ZECH FEELS THAT THE SUPPORT FOR AN INSPECTOR GENERAL RESPONDING TO THE COMMISSION DESERVES CAREFUL CONSIDERATION, ESPECIALLY IF IT WOULD ENABLE US TO CONSOLIDATE THE AGENCY'S INVESTIGATIVE FUNCTIONS IN ONE OFFICE.

COMMISSION ASSELSTINE ADDS THE FOLLOWING:

FOR THE REASONS SET FORTH IN MY ADDITIONAL COMMENTS IN THE COMMISSION'S ATTACHED SEPTEMBER 13, 1985 LETTER TO THE HOUSE COMMITTEE ON GOVERNMENT OPERATIONS, I CONTINUE TO BELIEVE THAT CONGRESS SHOULD ESTABLISH BY STATUTE AN INDEPENDENT INSPECTOR GENERAL TO REPLACE THE OFFICE OF INSPECTOR AND AUDITOR (OIA). THE TROUBLED HISTORY OF THAT OFFICE COUPLED WITH A WIDESPREAD PERCEPTION THAT OIA PROTECTS NRC STAFF MANAGEMENT DO NOT SUPPORT THE CLAIM THAT THAT OFFICE HAS THE NECESSARY INDEPENDENCE TO DO ITS JOB.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OGC

September 13, 1985

The Honorable Jack Brooks, Chairman
Committee on Government Operations
United States House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

We are responding to your request for comments on H.R. 3077, which would expand some of the provisions of the Inspector General Act of 1978 to cover, among others, the Nuclear Regulatory Commission (NRC). The NRC does not believe that application of the proposed legislation to the NRC is either necessary or warranted.

The NRC is a relatively small agency, headed by a five-member Commission. The Commission's audit and investigative unit for internal affairs -- the Office of Inspector and Auditor (OIA) -- has direct access to the Commissioners, and has all the necessary independence to do its job. Indeed, with a five-member Commission, it would be difficult to improperly control the activities of OIA.

Moreover, since the agency is relatively small, the Commission believes it is important that OIA remain a necessary management extension of the Commission in overseeing the programs and activities of the NRC. The proposed legislation would take some of those management benefits away from the Commission. In the absence of any showing that statutory independence is needed for OIA, the Commission opposes legislation which would lessen its ability to direct the functioning of the agency.

The Commission's view that application of the proposed legislation to the NRC is unwarranted is supported by a reading of the details of the proposed legislation. The legislation is apparently intended to correct abuses where there are large opportunities for fraud. Thus, for instance, Section 4(a)(7) of the proposed bill would require a statistical analysis of audit reports. Such a requirement would be burdensome and meaningless to the NRC, which does less than two dozen audits a year, and does not issue large numbers of grants and contracts. The requirement of semiannual reports to Congress under Section 5 of the Inspector General Act would be similarly burdensome. OIA does not conduct enough audits to justify such a reporting requirement. Moreover, Congress currently has access to anything OIA does; hence there is no need for an additional, formal requirement.

In sum, the NRC's internal audit and investigative office is currently functioning in a fully acceptable manner. There is accordingly no justification for imposing new, burdensome, and probably costly requirements on the Commission.

Commissioner Asselstine supports the proposed legislation and its application to the NRC. He believes that H.R. 3077 would help ensure the continued independence of our Office of Inspector and Auditor (OIA) by extending some of the protection afforded a statutory Inspector General to this NRC office. Such independence would enhance public confidence in the NRC, and would provide more assurance that both Congress and the NRC Commissioners were receiving objective information, which in turn might improve Congressional oversight. Commissioner Asselstine does not believe that this legislation would inhibit the Commission's management of OIA or the Agency. Finally, given the limited number of audits performed by OIA, he does not believe that the reporting requirements in the bill will be burdensome.

Sincerely,

Nunzio J. Palladino
Nunzio J. Palladino

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QUESTION 8: DO YOU BELIEVE THAT THE COMMISSION'S EMERGENCY PLANNING REQUIREMENTS CAN BE SATISFIED IN SITUATIONS WHERE STATE AND LOCAL GOVERNMENTS DO NOT PARTICIPATE IN THE DEVELOPMENT AND TESTING OF THE PLANS? WHAT PRECISELY DO YOU EXPECT TO GAIN FROM THE FEBRUARY 13 TEST OF LILCO'S EMERGENCY PLAN FOR SHOREHAM?

ANSWER

UNDER THE NRC'S RULES, THE FAILURE OF STATE AND LOCAL GOVERNMENTS TO PARTICIPATE IN THE DEVELOPMENT AND TESTING OF EMERGENCY PLANS IS NOT NECESSARILY A BAR TO ISSUANCE OF AN OPERATING LICENSE. THE COMMISSION HAS ADOPTED A REGULATION, 10 CFR 50.47(c)(1), WHICH PERMITS CONSIDERATION OF A UTILITY-SPONSORED OFFSITE PLAN (UTILITY PLAN) IN THE ABSENCE OF A STATE OR LOCAL PLAN APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). THE COMMISSION'S AUTHORITY TO CONSIDER A UTILITY PLAN FOR OFFSITE EMERGENCY PREPAREDNESS, LIKE ITS AUTHORITY TO CONSIDER STATE AND LOCAL PLANS FOR OFFSITE EMERGENCY PREPAREDNESS, IS ROOTED IN THE COMMISSION'S AUTHORITY TO PROTECT THE PUBLIC HEALTH AND SAFETY UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED. SEE ALSO NRC AUTHORIZATION ACT FOR FY 1980, SECTION 109(A); NRC AUTHORIZATION ACT FOR FY 1982-83 SECTION 5; AND NRC AUTHORIZATION ACT FOR FY 1984, SECTION 8. ACCORDINGLY, THE COMMISSION MAY CONSIDER A UTILITY PLAN AND COULD REACH A DETERMINATION THAT THE OFFSITE EMERGENCY PLAN PROVIDES REASONABLE ASSURANCE THAT THE HEALTH AND SAFETY OF THE PUBLIC CAN

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QUESTION 8

AND WILL BE PROTECTED EVEN WHERE STATE AND LOCAL GOVERNMENTS DO NOT PARTICIPATE. THE FACTS OF EACH SITUATION WHERE RELIANCE IS PLACED ON A UTILITY PLAN WILL HAVE TO BE CAREFULLY EVALUATED.

WITH RESPECT TO THE SHOREHAM EMERGENCY PLANNING EXERCISE HELD ON FEBRUARY 13, 1986, FEMA WAS REQUESTED BY NRC TO CONDUCT THAT EXERCISE TO ENABLE THE COMMISSION TO GAIN FACTS THAT WILL ASSIST IT IN EVALUATING ASPECTS OF LILCO'S EMERGENCY PLAN AND IN DETERMINING WHETHER THAT PLAN PROVIDES REASONABLE ASSURANCE THAT ADEQUATE PROTECTIVE MEASURES CAN AND WILL BE TAKEN IN THE EVENT A RADIOLOGICAL EMERGENCY WERE EVER TO OCCUR AT SHOREHAM.

THE COMMISSION'S VIEWS ON THE USEFULNESS OF THE SHOREHAM EMERGENCY PLANNING EXERCISE, INCLUDING THE DISSENTING VIEWS OF CHAIRMAN PALLADINO AND COMMISSIONER ASSELSTINE, ARE CONTAINED IN THE ATTACHED ORDER.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
 Thomas M. Roberts
 James K. Asselstine
 Frederick M. Bernthal
 Lando W. Zech, Jr.

RECEIVED (JAN 21 1986)

In the Matter of
 LONG ISLAND LIGHTING COMPANY
 (Shoreham Nuclear Power Station)

Docket No. 50-322 OL

DOCKET NUMBER 50-322 OL-3
PROD & UTIL PAC

RE-SERVED FEB 5 1986

MEMORANDUM AND ORDERBackground

Long Island Lighting Company's (LILCO) application for a full power operating license for its Shoreham Nuclear Power Plant, located in Suffolk County, New York, is pending before the NRC. In order for there to be an adequate record for safety review of LILCO's full power application, NRC regulations generally require, among other things, that an offsite emergency plan be developed, and that there be an exercise of the plan. See 10 CFR § 50.47 and Part 50, App. E. The exercises are generally supervised and conducted by the Federal Emergency Management Agency (FEMA), with participation by relevant state and local governments. In this case, however, the emergency plan before us for review was developed and proposed by LILCO because the State and County refused to develop one. The LILCO Plan for Shoreham provides for the lead role for offsite emergency response to be administered by the Local Emergency Response Organization (LERO), an

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organization comprised of primarily utility employees. In a December 26, 1985 motion, New York State, Suffolk County, and the Town of Southampton jointly moved the Commission to cancel a February 13, 1986 exercise of LILCO's emergency preparedness plan for Shoreham. LILCO and the NRC staff oppose the motion, and we deny it for the reasons explained below.

The movants have not identified any basis in NRC regulations for the filing of such a motion, which in effect attempts to interfere directly with the Commission's process for obtaining information necessary for its licensing decisions. Under NRC practice it is not clear that this type of motion is authorized or that we are obligated to respond in any formal way. On this basis alone the motion may be denied. Nevertheless, because we consider the upcoming exercise to be important in carrying out our safety responsibilities, we are responding to the motion in this Memorandum and Order.

The Nature of the Exercise

In the upcoming Shoreham exercise planned for February 13, 1986, FEMA intends to observe a number of LERO primary response capabilities. This observation will entail an examination of facilities, plans, and communications, but will not entail interaction with the public that would be affected in the event of an actual emergency. Specifically, FEMA plans to observe the following facilities and/or activities:

- LERO Emergency Operations Center
- Emergency Operations Facility
- Emergency News Center
- Reception Center
- Congregate Care Centers

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- Emergency Worker Decontamination
- General Population Bus Routes
- School Evacuation
- Special Facilities Evacuation
- Mobility Impaired at Home
- Route Alerting
- Traffic Control Points
- Impediments to Evacuation
- Radiological Monitoring
- Accident Assessment

The Motion

The State, County and Town oppose the holding of this exercise of the LILCO plan for essentially two reasons: (1) they contend that various court decisions make clear that LILCO cannot implement its plan, so an exercise of the plan would be useless; and (2) they contend that, if the exercise is designed to test the implementability of the LILCO plan using a simulated State and County response which was never litigated before any NRC Board, it would be irrelevant to the licensing process for Shoreham, and thus the results of the exercise would be worthless for that reason as well. We reject both reasons.

As to the first argument, it is true that a New York State Court has held that, in the event of an actual emergency, certain elements of LILCO's emergency plan can only be implemented by New York State or Suffolk County authorities. Cuomo v. LILCO, No. 84-4605 (N.Y. Sup. Ct., Feb. 20, 1985). The exercise does not flout that decision; to the contrary, it presumes the validity of the limits on LILCO's authority to implement its plan as set forth

in that case; the only elements of LILCO's emergency plan which will be tested are those that LILCO may lawfully do on its own. The exercise of these elements of the LILCO plan will not, however, be useless. To the contrary, the exercise is expected to provide important and material information to the Commission. For example, as we noted when we directed the NRC staff to request FEMA to schedule an exercise, the exercise will assist us in determining whether any defects that exist as a result of "the limitations of LILCO's plan when executed under the state and county restrictions" (memorandum from S. Chilk to W. Dircks, dated June 4, 1985 at 1), are significant under our regulations. See 10 CFR 50.47(c)(1). Therefore, it is simply incorrect for the movants to argue that the exercise is useless because not all of the plan's elements will be tested.

As to the second argument, the LILCO Plan in part states that:

The role of Suffolk County, should it decide to become involved in the response to a radiological emergency, either because the Governor orders it to do so or because the County Executive so chooses, will be for the various members to participate to the extent to which they are qualified by reason of prior training or experience.

Thus a fundamental factual premise for movants' second argument, i.e., that the plan litigated in the Shoreham licensing proceeding provides solely for a LILCO-only response, is incorrect. The plan provides for planned LILCO action in the event of an ad hoc State and County response to an actual emergency. Not only does the LILCO plan anticipate the possibility of such a response, such a response has been, in effect, promised by the State and County. The County Executive has stated that in the event of an actual radiological accident at Shoreham he would "respond to the best of [his] ability and in accordance with the duties and obligations placed upon [him] by Article 2-b of the Executive Law" (letter from P. Chalan to T. Reveley dated June 26, 1985),

and Governor Cuomo has stated that in a radiological emergency, "both the State and the County would help to the extent possible; no one suggests otherwise." Governor's Press Release dated December 20, 1983.

In order to test LILCO's planned response to ad hoc governmental participation in an actual emergency and to add more realism to the exercise, federal employees will play the role of such officials during the exercise. Through this role-playing, the NRC is attempting to evaluate LERO's capability (1) to accommodate the presence of state and local officials, (2) to support those officials using the resources available through LERO, and (3) to provide those officials with sufficient information to carry out their state and county responsibilities. These "actors," however, will be instructed not to play decisionmaking roles, not to assume any command and control authority, not to interact with members of the public so as to lead anyone to believe that they are actually county officials, and not to actually perform any state or local functions exclusively reserved to state or county officials by state or county laws. The basis for the number of actors to be used in this aspect of the exercise and the detailed instructions they will be provided are based, primarily, on New York State plans for other nuclear power plants and the manner in which New York State personnel and other counties have participated in other New York facility exercises.

Thus, contrary to movants' assertion, the simulation to be performed during the exercise will test an actual and important aspect of LILCO's plan. Indeed, the exercise currently scheduled, including the role playing, corresponds exactly with the current status of emergency planning for Shoreham.

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Conclusion

In sum, we find that the motion presents no reason why the exercise should be cancelled.¹ We further find that the conduct of this exercise, which is permitted by our regulations, is under current circumstances both lawful and necessary to fulfill our responsibility under the Atomic Energy Act to protect the health and safety of the public.² The exercise will allow us to evaluate whether the LILCO plan, as described above, is as good as LILCO claims it is or, conversely, is as bad as the State, County, and Town assert.

¹The County appears to assert (Motion, p. 21) that, in the event of a radiological accident at Shoreham, County personnel could not lawfully make use of the LILCO plan, even if this was under the circumstances the best way to protect the safety of the citizens of Suffolk County. We find this assertion to be too preposterous an abrogation of the County's obligations to its citizens to be taken seriously.

The motion also states that NRC may not request an exercise at a plant "which has been denied an operating license." (See, e.g., Motion at 3). However, the Commission itself has not reviewed the evidentiary record on the adequacy of LILCO's plan, and consequently there is no final agency action denying LILCO an operating license.

Movants also seem to argue that the Commission erred by failing to conduct a formal Commission meeting when it decided to request the exercise. See Motion at 2. No law requires such a meeting.

²Section 103d., 42 U.S.C. § 2132d., provides that:

... no license may be issued to any person within the United States if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public.

Section 161c., 42 U.S.C. § 2201c., authorizes the Commission to:

... make such studies and investigations, obtain such information, and hold such meetings or hearings as the Commission may deem necessary or proper to assist it in exercising any authority provided in this Act, or in the administration or enforcement of this Act, or any regulations or orders issued thereunder.

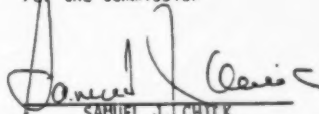
Accordingly, we decline movants' invitation to cancel the exercise based on movants' assertion that the exercise is useless because it cannot prove that LILCO's emergency plan is sufficient to meet NRC requirements. While, for the reasons set forth herein, we believe that the exercise is very useful, we obviously take no position on whether the exercise will satisfy our emergency planning requirements. For the past several years the State, County, and Town have been claiming that no adequate plan can be developed for Shoreham, and that the LILCO plan is inadequate. They are entitled, as litigants before us, to advocate that position; they are not, however, entitled to obstruct our inquiry into the facts necessary to enable us to resolve that assertion.³

³The motion did not inform us of a pending development directly related to the motion: a County law, now in effect and under County consideration when its motion was filed, that is apparently intended to make NRC participation in the exercise a crime should the County legislature disapprove of it. Because it has not been raised by the movants as a basis for their motion, we do not deal with the new local law in this Order.

Chairman Palladino and Commissioner Asselstine disapprove this order. Chairman Palladino provided dissenting views with which Commissioner Asselstine agreed. The additional views of the Commission majority are also attached.

It is so ORDERED.

For the Commission


SAMUEL J. CHALK
Secretary of the Commission

Dated at Washington, D.C.
this 30th day of January, 1986.

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DISSENTING VIEWS OF CHAIRMAN PALLADINO

I BELIEVE MY POSITION ON THE SCHEDULING OF AN EXERCISE AT THIS TIME IS WELL KNOWN. THAT POSITION IS AS FOLLOWS:

AFTER THINKING ABOUT THIS ISSUE A GREAT DEAL, I CONCLUDED THAT ONLY A POTENTIALLY WORKABLE PLAN SHOULD BE EXERCISED. GIVEN THE LICENSING AND APPEAL BOARD DECISIONS THAT LILCO DID NOT HAVE THE LEGAL AUTHORITY TO PERFORM MANY OF THE REQUIRED EMERGENCY RESPONSE FUNCTIONS SET OUT IN THE PROPOSED PLAN, I QUESTIONED THE USEFULNESS OF THE DRILL BEING PROPOSED. FURTHER, THE RESULTS OF A DRILL OF AN INADEQUATE PLAN MIGHT CREATE NEW HEARING ISSUES WHICH WOULD NEED TO BE ADDRESSED AND THAT MIGHT NOT ARISE IF ONE WERE TO EXERCISE ONLY AN ADEQUATE PLAN.

I BELIEVE THAT AN EXERCISE AT SHOREHAM WHICH INVOLVES PARTICIPATION OF THE STATE, SUFFOLK COUNTY, AND THE UTILITY COULD PROVIDE, ON THE OTHER HAND, USEFUL INFORMATION ON THE ADEQUACIES OF EMERGENCY PREPAREDNESS AT SHOREHAM THAT WOULD BE OF USE AND INTEREST TO ALL PARTICIPANTS.

UNTIL THE COMMISSION COMPLETES ITS REVIEW OF THE EMERGENCY PLANNING LEGAL AUTHORITY ISSUES AND DEPENDING UPON THE OUTCOME OF THAT REVIEW, I WILL CONTINUE TO HOLD THE ABOVE-STATED VIEW. I WOULD ADD THAT I HAVE NOT PREJUDGED, AND DO NOT INTEND TO PREJUDGE, ANY OPEN ISSUE IN THE SHOREHAM OPERATING LICENSE PROCEEDING.

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Additional Views of Majority

While we share our colleagues' views that the February 13, 1966, exercise would be more useful to us in discharging our regulatory responsibilities were Suffolk County and New York State to participate (and indeed we would be inclined to postpone the exercise were state and local participation certain in the near future), we are aware of nothing which suggests that there is any realistic chance of that occurring. Given the intransigence of these governmental bodies we believe our responsibilities require that we proceed with an exercise without them.

For the reasons stated herein, we simply disagree with the view that this exercise will not provide useful information. Whether the LTCCO plan adequately accounts for a promised, but ad hoc, governmental response (the "realism" argument) is a matter on which we express no opinion at this time. As noted in our opinion, however, we expect the upcoming exercise to provide us with important factual information to help us resolve this issue.

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QUESTION 9: HAS NRC REGULATORY RESEARCH EVER DIRECTLY CAUSED
RE STRINGENT SAFETY REGULATIONS TO BE IMPLEMENTED?
HAS THIS RESEARCH BEEN COST-EFFECTIVE? PLEASE GIVE
SPECIFIC EXAMPLES.

ANSWER

YES, NRC REGULATORY RESEARCH HAS FREQUENTLY RESULTED IN MORE
STRINGENT SAFETY REGULATIONS BEING IMPLEMENTED. EXAMPLES INCLUDE:

- O TWO REVISIONS OF 10 CFR 50.44 REQUIRING HYDROGEN CONTROL FOR
TWO CLASSES OF LWRs WERE ISSUED BASED ON RES ASSESSMENTS OF
THE POTENTIAL CONSEQUENCES OF HYDROGEN IGNITION DURING
POSTULATED SEVERE REACTOR INCIDENTS. THE NRC RESEARCH
EXPERIMENTS ON HYDROGEN IGNITION AND BURN ENVIRONMENT
IDENTIFIED THE POTENTIAL FOR SIGNIFICANT TEMPERATURES WHICH
COULD THREATEN EQUIPMENT SURVIVAL IN SMALL CONTAINMENTS SUCH
AS THE ICE CONDENSER PWR AND BWR MARK III. THIS RESULTED IN
THE INCLUSION OF THIS CONSIDERATION IN 10 CFR 50.44. ALSO,
SUBSEQUENT EXPERIMENTS ESTABLISHED THAT LOCATING IGNITORS IN
CONTAINMENT WOULD PROVIDE A COST EFFECTIVE WAY OF LIMITING
THE HYDROGEN BUILDUP IN CONTAINMENT FROM AN ACCIDENT AND
ASSURE EQUIPMENT SURVIVAL. AS A RESULT NRC REQUIRED THAT
LICENSEES INSTALL A HYDROGEN GAS CONTROL SYSTEM.

RES

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QUESTION 9

- O A FUNDAMENTAL OVERHAUL OF 10 CFR 20 WAS ISSUED AS A PROPOSED RULE. THIS UPDATE WILL IMPOSE MORE STRINGENT REQUIREMENTS FOR RADIATION PROTECTION IN SOME AREAS, SUCH AS: (A) FOR CERTAIN RADIONUCLIDES, THE INTAKE LIMITS ARE BEING LOWERED; (B) THE MAXIMUM WHOLE BODY DOSE IS REDUCED FROM 12 REMS TO 5 REMS; (C) PART 20 WILL ESTABLISH, FOR THE FIRST TIME, A LIMIT OF .5 REMS FOR THE EMBRYO/FETUS; AND (D) THE DOSE LIMIT FOR THE EXTREMITIES WILL BE REDUCED FROM 75 REMS DOWN TO 50 REMS.
- O THERMAL HYDRAULIC SAFETY ANALYSES AS PART OF ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS) RESEARCH REVEALED THAT OVERPRESSURE TRANSIENTS IN BOILING WATER REACTORS CAN RESULT IN COLLAPSE OF VOIDS IN THE CORE WITH AN ACCOMPANYING RAPID INCREASE IN REACTIVITY. LICENSEES WERE REQUIRED TO INSTALL AUTOMATIC PUMP TRIPS UPON OVERPRESSURE FOR ALL BWRs.
- O MULTIFUEL-ROD BURST RESEARCH REVEALED THAT LICENSEE ANALYTICAL MODELS USED TO DETERMINE CONFORMANCE TO NRC'S EMERGENCY CORE COOLING REGULATORY REQUIREMENTS (APPENDIX K) WERE INCORRECT IN THREE AREAS: (A) RUPTURED RODS REDUCE FLOW AREA, (B) STRAINED CLAD HAS ENLARGED AREA FOR OXIDATION, AND (C) TIME OF RUPTURE WAS MISUNDERSTOOD. VENDORS HAD TO REVISE THEIR MODELS RESULTING IN SOME FUEL OPERATING LIMIT STRINGENCIES.

RES

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QUESTION 9

- O PRESSURIZED THERMAL SHOCK RESEARCH INVOLVING MATERIALS, THERMAL-HYDRAULIC AND RISK ANALYSES OF REACTOR PRESSURE VESSEL OVERCODING TRANSIENTS RESULTED IN VESSEL COOL DOWN LIMITS BEING IMPOSED ON LICENSEE POWER PLANTS.
- O NRC RESEARCH SUPPORTED THE DEVELOPMENT OF TECHNICAL CRITERIA FOR 10 CFR PART 60, ON DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGICAL REPOSITORIES. APPROPRIATE REQUIREMENTS WERE ESTABLISHED FOR WASTE CONTAINMENT, CONTROL OF RELEASE AND MULTIPLE BARRIER DESIGNS.
- O RESEARCH IN NONDESTRUCTIVE EXAMINATION (NDE) FOR STAINLESS STEEL PIPING PROVIDED THE TECHNICAL BASIS FOR ISSUANCE OF BULLETIN 83-02; THIS MADE REQUIREMENTS MORE STRINGENT BY INCREASING THE NUMBER OF FLAWS TO BE DETECTED AND BY HAVING THOSE FLAWS BE REALISTIC AND NATURAL OCCURRING FLAWS INSTEAD OF MACHINED FLAWS.
- O 10 CFR 50.49, WHICH DEALS WITH ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY CONTAINS MORE STRINGENT REQUIREMENTS FOR CONSIDERATION OF RADIATION DOSE RATE EFFECTS AND SYNERGISTIC EFFECTS. THESE REQUIREMENTS FLOW DIRECTLY FROM NRC-SPONSORED RESEARCH ON QUALIFICATION TESTING PROCEDURES.

RES

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QUESTION 9

- O NRC RESEARCH ON IN-SERVICE INSPECTION (ISI) HAS RESULTED IN MORE STRINGENT INSPECTION REQUIREMENTS THROUGH MODIFICATION OF THE ASME BOILER AND PRESSURE VESSEL CODE.
- O STEAM GENERATOR RESEARCH THAT WILL BE COMPLETED IN LATE 1986 IS EXPECTED TO PROVIDE THE BASIS FOR MORE STRINGENT INSPECTION AND TUBE PLUGGING CRITERIA WHICH WILL BE IMPLEMENTED IN REVISIONS TO REGULATORY GUIDES 1.83 AND 1.121.
- O APPENDIX R TO 10 CFR PART 50 SPECIFIED FIRE PROTECTION REQUIREMENTS FOR EXISTING LWR PLANTS THAT, IN SOME CASES, WENT BEYOND THEN CURRENT PRACTICE INCLUDING REQUIREMENTS FOR SEPARATION OF CABLES AND EQUIPMENT OF REDUNDANT TRAINS BY HORIZONTAL DISTANCE OF MORE THAN 20 FT. ADDITIONAL CABLE FIRE SCREENING CRITERIA WEPE IMPOSED BY REG. GUIDE 1.131 ON QUALIFICATION TESTS OF ELECTRIC CABLES FOR LWR PEACTORS.
- O PIPING RESEARCH PROGRAMS HAVE RESULTED IN MORE STRINGENT REQUIREMENTS FOR ACCEPTANCE OF FLAWS IN STAINLESS STEEL PIPES. THIS HAS BEEN IMPLEMENTED BY INCLUSION IN THE ASME CODE (SECTION XI, IWB-3640) AND WILL BE INCORPORATED BY ENDORSEMENT IN 10 CFR 50.55(A).

RES

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QUESTION 9

- O RESEARCH ON PRESSURIZED THERMAL SHOCK (PTS) RESULTED IN INCREASED REQUIREMENTS FOR ACTIONS BY PLANT OPERATORS TO PREVENT PTS, INCLUDING CONDUCTING ADDITIONAL ANALYSES TO EVALUATE THE ADEQUACY OF EQUIPMENT QUALIFICATION PROGRAMS AND THE ABILITY OF PWRs TO WITHSTAND PTS EVENTS.
- O REG. GUIDE 1.97 DEALING WITH INSTRUMENTATION NEEDED DURING AND FOLLOWING AN ACCIDENT IDENTIFIED THE NEED FOR SUCH INSTRUMENTATION TO BE QUALIFIED FOR CONDITIONS THAT MIGHT BE ENCOUNTERED IN SEVERE ACCIDENTS.
- O RES RESEARCH DEVELOPED A SPECIAL COMPUTER CODE (FRANTIC) FOR THE EVALUATION OF PLANT TECHNICAL SPECIFICATIONS. THIS CODE IS USED ROUTINELY BY BOTH INDUSTRY AND THE NRC LICENSING STAFF IN DEALING WITH MODIFICATIONS TO PLANT TECHNICAL SPECIFICATIONS, WITHOUT THE ISSUANCE OF FORMAL REGULATORY GUIDES.
- O RES-SPONSORED PRA STUDIES HAVE IDENTIFIED A NUMBER OF IMPORTANT VULNERABILITIES IN CERTAIN OPERATING REACTORS. FOR EXAMPLE, THE ADDITION OF AN AUXILIARY FEEDWATER TRAIN TO THE CALVERT CLIFFS PLANT AND MODIFICATIONS TO LOAD-SHEDDING SWITCHES AT MILLSTONE (A SINGLE-FAILURE EVENT WHICH COULD HAVE DISABLED THE EMERGENCY CORE COOLING SYSTEM AT THAT PLANT).

RES

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QUESTION 9

- O IN ALMOST EVERY PRA SPONSORED BY RES, THERE HAS BEEN SOME FOLLOW-UP MODIFICATION MADE BY THE AFFECTED UTILITY, GENERALLY ON ITS OWN INITIATIVE, EITHER TO THE ENGINEERED PLANT SAFETY SYSTEMS OR TO PLANT OPERATING PROCEDURES IN ORDER TO PROVIDE MORE RELIABLE SAFETY SYSTEM.
- O NRC-FUNDED RADIOBIOLOGICAL RESEARCH HAS RESULTED IN RECOMMENDATIONS TO LOWER THE INTAKE LIMIT FOR AIRBORNE URANIUM IN SOLUBLE FORM BY A FACTOR OF 5.
- O THROUGH AN NRC-FUNDED EFFORT, AN ACCREDITATION PROGRAM WAS ESTABLISHED AT NBS FOR PERSONNEL DOSIMETRY PROCESSORS. RESEARCH REVEALED WIDESPREAD POOR PERFORMANCE AND LED TO THE DEVELOPMENT OF A PROVEN PERFORMANCE STANDARD. THROUGH THIS PROGRAM, PROCESSOR PERFORMANCE HAS DRAMATICALLY IMPROVED; THE TEST FAILURE RATE WAS REDUCED FROM 52 PERCENT TO 7 PERCENT.
- O NRC RESEARCH FUNDS WERE USED TO DETERMINE REGULATORY CONSTRAINTS WHICH ARE APPLIED IN THE DESIGN, TESTING AND USE OF RESPIRATORY PROTECTION EQUIPMENT FOR AIRBORNE RADIOIODINES.

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QUESTION 9

THE RESEARCH PROGRAM FOR NRC IS NOT A COMMERCIAL ACTIVITY TO BE JUDGED STRICTLY ON GROUNDS OF COST-EFFECTIVENESS. RATHER, IT SHOULD BE MEASURED BY THE RELEVANCE OF ITS ACTIVITY TO IMPROVING THE ABILITY OF THE NRC TO ASSURE PUBLIC SAFETY. IN THIS CONTEXT, IT CAN BE JUDGED ON HOW WELL IT IS MANAGED AND ON HOW APPROPRIATE THE LEVEL OF ACTIVITY IS TO THE REGULATORY NEED. THE NRC ATTEMPTS TO REDUCE COST BY ACCOMPLISHING ITS RESEARCH, TO THE EXTENT PRACTICABLE, IN COOPERATION WITH DOE, INDUSTRY AND FOREIGN COUNTRIES TO MERGE SCIENTIFIC TALENT AND KNOWLEDGE, AND THUS MAXIMIZE THE BENEFIT DERIVED FROM NRC'S RESEARCH DOLLARS.

IT ALSO ATTEMPTS TO MINIMIZE COSTS TO ATTAIN NEEDED REGULATORY OBJECTIVES, BY TIGHT MANAGEMENT CONTROL. EXAMPLES THAT DEMONSTRATE THAT TIGHT MANAGEMENT WAS EFFECTIVELY EXERCISED INCLUDE SUCH SIGNIFICANT PROGRAMS AS FIST, MIST AND LOFT.

QUESTION 10: ACCORDING TO CRITICS OF THE NRC, MOST OF THE REGULATORY RESEARCH CONDUCTED IS DEVOTED TOWARD JUSTIFYING LESS STRINGENT REGULATION. IF THIS IS TRUE WHY CAN'T INDUSTRY PAY FOR THIS RESEARCH?

ANSWER

PLEASE SEE RESPONSE TO QUESTION 2C.

RES

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QUESTION 11: WOULD THERE BE A SIGNIFICANT EFFECT ON NUCLEAR PLANT SAFETY IF THE NRC REGULATORY RESEARCH PROGRAM WAS ELIMINATED?

ANSWER

YES. THERE WOULD BE AN ADVERSE EFFECT ON NUCLEAR PLANT SAFETY IF THE NRC REGULATORY RESEARCH PROGRAM WERE ELIMINATED, PARTICULARLY IN FUTURE YEARS, AS THE NRC WOULD LOSE THE CAPABILITY TO PREDICT AND RESPOND TO POTENTIAL SAFETY PROBLEMS, AND TO DEVELOP REGULATORY PROCEDURES TO PREVENT THEM.

NUCLEAR TECHNOLOGY CAN BE CHARACTERIZED AS A COMPLEX TECHNOLOGY THAT IS NOT FULLY MATURE. LIKE OTHER ADVANCED TECHNOLOGIES, NEW PROBLEMS CONTINUE TO ARISE, AND AREAS OF TECHNICAL UNCERTAINTY REMAIN. RESEARCH FORMS AN INTEGRAL PART OF THE NRC CAPABILITY TO DEAL WITH PROBLEMS AS THEY OCCUR AND TO DEVELOP TECHNICALLY SOUND REGULATIONS TO ASSURE PUBLIC SAFETY. THE NRC RESEARCH PROGRAM HAS CONTRIBUTED TO NUMEROUS DECISIONS THAT HAVE UNDOUBTEDLY REDUCED ACCIDENT RISKS AND, IN THE FUTURE, WILL PROVIDE A RESOURCE OF INFORMATION TO BE USED IN PROVIDING EFFECTIVE RESPONSES TO FUTURE SEVERE ACCIDENTS SHOULD THEY OCCUR.

QUESTION 12: WHY DOES THE FY 1987 BUDGET REQUEST PROPOSE INCREASING THE BUDGET FOR THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS FROM \$250,000 TO \$320,000?

ANSWER

THE CHANGE FROM \$250,000 TO \$320,000 FOR THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS IS FOR OVERSEEING THE HIGH-LEVEL WASTE RADIOACTIVE PROGRAM AND SPECIAL REQUESTS FOR SAFETY REVIEWS.

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QUESTION 13: WHY DOES THE FY 1987 BUDGET REQUEST PROPOSE
INCREASING THE BUDGET FOR THE OFFICE OF THE
SECRETARY FROM \$230,000 TO \$350,000?

ANSWER

THE BUDGET REQUEST OF \$350,000 FOR FY 1987 COMPARED TO \$230,000
FOR FY 1986 REFLECTS THE BI-YEARLY FUNDING CYCLE FOR TRANSCRIPTION
SERVICES FOR THE COMMISSION'S IN TOWN MEETINGS. THIS CONTRACT IS
SCHEDULED FOR FUNDING AGAIN IN FY 1987, THUS THE INCREASE IN
REQUESTED FUNDS.

QUESTION 14: WHY DOES THE FY 1987 BUDGET REQUEST PROPOSE
INCREASING THE BUDGET FOR THE COMMISSIONERS AND
STAFF FROM \$40,000 TO \$100,000?

ANSWER

THE INCREASE FROM FY 1986 OF \$40,000 TO \$100,000 IN FY 1987 FOR
THE COMMISSIONERS AND STAFF PROVIDES TECHNICAL ASSISTANCE
NOT PROVIDED IN THE REQUESTED FY 1986 APPROPRIATION.

RM

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QUESTION 15: WHY DOES THE FY 1987 BUDGET REQUEST PROPOSE
INCREASING THE BUDGET FOR THE OFFICE OF POLICY
EVALUATION FROM \$25,000 TO \$60,000.

ANSWER

THE COMMISSION HAS DECIDED TO ABOLISH THE OFFICE OF POLICY
EVALUATION BY OCTOBER 1986. THEREFORE, THE FUNDING WHICH WAS
ESTIMATED TO INCREASE FROM \$25,000 TO \$60,000 IN FY 1987 WILL BE
ALLOCATED TO OTHER ORGANIZATIONAL UNITS. THIS INCREASE WAS FOR
CONDUCTING ADDITIONAL TECHNICAL EVALUATIONS IN SUPPORT OF
COMMISSION DECISIONMAKING.

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QUESTION 16: (A) DRAWING ON YOUR EXPERIENCE, CAN YOU TELL ME WHETHER YOU THINK THERE WILL EVER BE CHANGES IN EMERGENCY PLANNING REGULATIONS TO CONFORM TO NEW SOURCE TERM RESEARCH? I SEE THAT FUNDS FOR GENERAL RESEARCH HAVE MADE UP THE LARGEST PART OF YOUR BUDGET, YET THERE SEEMS TO BE QUITE A DELAY IN SERIOUSLY CONSIDERING POSSIBLE CHANGES IN THE REGULATION OF SOURCE TERM,

ANSWER

THERE MAY BE SOME CHANGES IN EMERGENCY PLANNING REGULATIONS WHEN CURRENT WORK IS COMPLETED. CLARIFICATION OF EMERGENCY PLANNING GUIDANCE WAS UNDER CONSIDERATION SEVERAL YEARS AGO BASED ON RISK INFORMATION IN WASH-1400. HOWEVER, A DECISION WAS MADE TO DEFER ANY CHANGES IN EMERGENCY PLANNING GUIDANCE TO MAKE SURE THAT RISK INFORMATION BASED ON NEW SOURCE TERM ANALYSES WOULD NOT CONTRADICT THE EXISTING INFORMATION. THE NEW SOURCE TERM ANALYTICAL PROCEDURES WILL BE USED TO DERIVE NEW RISK INFORMATION FOR SIX SPECIFIC PLANTS. A MAJOR PART OF THAT TASK IS TO ASSESS THE UNCERTAINTIES IN THE RISK. THE NEW RISK INFORMATION WILL BE PUBLISHED IN THE EARLY FALL OF 1986. REGULATORY CHANGE, IF IT IS WARRANTED, WOULD FOLLOW PUBLICATION OF THE RISK AND THE UNCERTAINTY INFORMATION, WITH THE USUAL OPPORTUNITY FOR PUBLIC COMMENT ON THE TECHNICAL JUSTIFICATION FOR THE PROPOSED CHANGE. THE PROGRESS THAT THE NRC HAS MADE TO DATE ON THE COMPLEX AREA OF SOURCE TERM PHENOMENOLOGY HAS COME FROM AN EXTENSIVE RESEARCH PROGRAM COMPRISED OF GOVERNMENT AS WELL AS FOREIGN AND DOMESTIC RESEARCH EFFORTS. IN ORDER TO HAVE ANY CHANGES IN REGULATORY PRACTICE BE BASED ON SOUND SCIENCE, WHICH IS NECESSARY FOR PROTECTION OF THE PUBLIC HEALTH AND SAFETY, A BROAD-BASED ACCEPTANCE OF THE PHENOMENOLOGICAL DATA AND ANALYTICAL PROCEDURES IS REQUIRED. THIS PROCESS, INCLUDING VALIDATION OF THE CODES AND ANALYTICAL PROCEDURES, IS BEING ACTIVELY PURSUED.

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QUESTION 16: (B) IT SEEMS QUITE POSSIBLE THAT WE COULD BE OPERATING WITH AN UNNECESSARILY BURDENSOME REGULATION FOR 10-MILE EMERGENCY PLANNING ZONES. I KNOW THAT BALTIMORE, GAS, AND ELECTRIC (BG&E) HAS MADE A FORMAL REQUEST THAT THE PLUME EXPOSURE PATHWAY EMERGENCY PLANNING ZONE (EPZ) BE REDEFINED AS THE AREA WITHIN A RADIUS OF TWO MILES FROM THE PLANT INSTEAD OF THE GENERALLY REQUIRED RADIUS OF ABOUT TEN MILES. I BELIEVE THAT BG&E HAS PROVIDED THE APPROPRIATE TECHNICAL INFORMATION TO ENABLE THE COMMISSION TO IMMEDIATELY CONSIDER BG&E'S REQUEST. I MUST URGE YOU, AS CHAIRMAN OF THE COMMISSION, TO PROVIDE BG&E WITH ITS "DUE PROCESS" BY EXAMINING THEIR DATA AGAINST YOUR SOURCE TERM DATA AND MAKE A TIMELY DECISION. CAN YOU GIVE ME A COMPLETE STATUS REPORT OF THE COMMISSION'S CONSIDERATION OF BG&E'S REQUEST, INCLUDING SOME SORT OF TIMETABLE ON WHEN THIS DECISION CAN BE REACHED? IF FURTHER INFORMATION IS NEEDED, PLEASE PROVIDE ME WITH EXACTLY WHAT IT IS.

ANSWER

THE BG&E APPLICATION RELIES HEAVILY ON TECHNICAL INFORMATION RELATING TO SEVERE ACCIDENT ISSUES WHICH ARE STILL UNDER REVIEW BY

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QUESTION 16B

INDUSTRY AND THE NRC STAFF. WE HAVE BEEN WORKING WITH THE INDUSTRIAL GROUP IDCOR ON THE ISSUES OF SEVERE ACCIDENTS AND SOURCE TERMS, AND EVEN THOUGH NUMEROUS TECHNICAL ISSUES HAVE BEEN RESOLVED, OTHERS REMAIN TO BE RESOLVED. ALSO, THE STAFF IS PRESENTLY EVALUATING THE NUMEROUS PUBLIC COMMENTS AS WELL AS THE ACRS COMMENTS RECEIVED ON THE DRAFT NUREG-0956, "REASSESSMENT OF THE TECHNICAL BASES FOR ESTIMATING SOURCE TERMS." THE EXTENT OF THE TECHNICAL QUESTIONS RAISED IN THESE COMMENTS WILL REQUIRE CONSIDERABLE EFFORT BEFORE NUREG-0956 IS PUBLISHED IN FINAL FORM. WE ARE ALSO ESTABLISHING AN INTERFACE BETWEEN THE NRC STAFF AND THE ATOMIC INDUSTRIAL FORUM (AIF) TO PROVIDE A FORUM FOR INDUSTRY INPUT AS WELL AS TECHNICAL EXCHANGES ON SOURCE TERM RELATED ISSUES. THE NRC STAFF WILL USE THE INSIGHTS FROM ALL OF THESE ACTIVITIES TO DEVELOP OPTIONS ON A NUMBER OF SOURCE TERM RELATED ISSUES, INCLUDING BG&E'S PROPOSAL TO MODIFY THE EMERGENCY PLANNING REQUIREMENTS.

IN A LETTER TO MR. J. A. TIERNAN, VICE PRESIDENT-NUCLEAR ENERGY, BALTIMORE GAS AND ELECTRIC COMPANY, BG&E WAS NOTIFIED BY HAROLD R. DENTON, DIRECTOR, NRC OFFICE OF NUCLEAR REACTOR REGULATION THAT "WE BELIEVE YOUR APPLICATIONS DATED NOVEMBER 18, 1985 AND JANUARY 10, 1986 FOR REDUCTION IN THE EPZ ARE PREMATURE. THEREFORE, BASED UPON THE INFORMATION SUPPLIED IN SUPPORT OF YOUR EXEMPTION REQUESTS, WE PLAN TO DEFER ACTION ON THESE ISSUES UNTIL THE DRAFT NRC FINDINGS YOU CITE UPON HAVE BECOME FINAL."

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